1831

Order Percesoces

Opercle unarmed. Branchial arches well developed, all bones present, except fourth upper branchial. Third upper pharyngeal much enlarged and lower pharyngeals distinct from one another. Pelvic bones not joined to shoulder girdle. Lateral line median or obsolete. Spinous armature of fins but moderately developed. Spinous dorsal usually present and other fins also with spines. Pectoral elevated, about level with upper hind opercle angle. Ventral abdominal, graduated from outer rays, which longest, inner shortest; of spine and 5 rays.

An interesting transition group from the soft-rayed to spiny-rayed fishes. Chiefly shore and fresh-water forms, many of small size, some large and exceedingly voracious.

1833

Analysis of Families

a. Lateral line absent, or rudimentary; mouth moderate or small; teeth small, not (or rarely) implanted in sockets, sometimes feeble or absent; gill rakers long and slender.

b. Mouth cleft lateral, not transverse; upper pharyngeals dentigerous, not forming filtering apparatus with gill rakers; vertebrae more than 30.

c. Phallostethoidei, new suborder. Male with greatly specialized copulatory organ (priapium) below head and supported by special system of bones; spinous dorsal feeble or imperfect. Phallostethidae.

c. Atherinoidei, new suborder. Male without specialized copulatory organ; spinous dorsal at least distinct; if not conspicuous and prominent.

1834

d.' A. III, 8 or 9, opposite similar first dorsal; dorsals joined basally, first VIII or IX; pectoral rounded, low. Hannatherinidae.

d.² A. spine single, origin usually before second dorsal; dorsals separate, first usually with less than 8 spines; body more or less robust, compressed; pectoral falcate, pointed, high.

e.' Dorsals rather close, first fin much higher than interdorsal space; body well compressed, deep. Melanotaeniidae.

e.² Dorsals widely separated, interdorsal greater than first dorsal; body slender, usually not strongly compressed. Atherinidae.

Pseudochromis adustus n. sp.

Troschel, Horae Soc. Ent. Ross., p. 23, pl. 4, fig. 3. Philippines. — Günther, Cat. Fishes Brit. Mus., vol. 2, 1860, p. 258 (copied); Cruise of Curaçoa, Brenchley, 1873, p. 407 (Solomon Isl.).

Pseudochromis (Labrichthys) adustus Bleeker, Verh. Kon. Akad. Amsterdam, No. 5, vol. 15, 1875, p. 18 (copied).

Pseudochromis xanthochir Bleeker, Nat. Tijds. Ned. Indië, vol. 8, 1855, p. 443. Manado, Celebes. — (Günther, Cat. Fishes Brit. Mus., vol. 2, 1860, p. 257 (copied). — Bleeker, Verhand. Kon. Akad. Wet. Amsterdam, No. 5, vol. 15, 1875, pl. 3, fig. 4. — Day, Fishes of India, pt. 2, 1876, p. 267, pl. 58, fig. 6 (Andamans). — Bleeker, Atlas Ichth. Ind. Néerl., vol. 9, 1876-77, pl. (5) 388, fig. 1. — Day, Fishes of India, Supplement, 1888, p. 791 (note).

b.[2] Mugiloidei. Mouth cleft usually wide and transverse, lateral cleft usually short, rarely reaches below eye in few forms; upper pharyngeals toothless, form together with gill rakers filtering appratus; vertebrae 24 to 26. Mugilidae.

a.[2] Sphyraenoidei. Lateral line distinct, continuous; mouth large, widely and deeply cleft; large fang-like teeth in jaws, implanted in sockets; pectoral inserted below middle in height; gill rakers obsolete. Sphyraenidae.

1836

Family Phallostethidae

Body elongate, strongly compressed, rather slender, fore part of trunk more or less constricted in males. Head moderate, compressed. Snout short. Eye moderate or large, advanced, high. Mouth terminal or superior, very oblique, lower jaw protruded in front. Premaxillaries protractile. Teeth minute, sharp pointed, conic, in rows in jaws. Air bladder physoclistous. Vertebrae 34 to 40. Haemal arches of caudal vertebrae not expanded. Head and most of fins scaleless, also nape beyond pectoral bases. Females with throat and region below pectoral

smooth and scaleless. Scales rather small, cycloid. Lateral line more or less distinct and complete, axial along side. Dorsal fins 1 or 2, first or spinous fin minute and postmedian. Second dorsal small, behind or over hind end of much longer anal. Caudal emarginate. Pectoral high, well developed. No ventrals. Male with highly modified priapium, a clasping or copulating organ attached to and projecting from the throat below the head. Its external, long, curved bones apparently functional as claspers, 1 or 2 ctenactinia projecting from one or a proctal

side at posterior end of
priapium and another or
toxactinium may extend from
anterior end. Vas deferens extends
into priapium where enlarged
and coiled, opening at or near
hind end. End of intestine
extends forward and down
from abdomen into priapium,
with rectal portion opening
at proctal side. Proctal side
may be dextral or sinistral,
thus males "rights" or "lefts."
Females symmetrical, may or
may not present groove in
which anus, oviduct and ureter
terminate, openings in line on
abdomen. Pair of papillae
variably present or not on
abdomen. Both sexes may

1839

present median abdominal fold
from behind priapial.
attachment nearly to anal fin.

Analysis of Genera

a.' Toxactinium present, shield like pulvinulus covering base.

b.' A. very long, rays 26 to 28; jaws equal for lower slightly included; spinous dorsal ?; abdomen of female with groove.

Phallostethus.

b.² A. moderate, rays 14 or 15; lower jaw strongly protruded; spinous dorsal single spine; abdomen of female without groove.

Phenacostethus.

a.² Toxactinium absent, pulvinulus if present small and not shield or disk shaped.

c.' Spinous dorsal present.

d.' D. I; nape and opercles naked ?; 1 or 2 ctenactinia.

Neostethus.

d.² D. II; nape and opercles

naked; 2 ctenactinia.

Gulaphallus.

C.[2] 20 spinous dorsal; nape and opercles scaly. Microphallus.

Genus Phallostethus Regan

Phallostethus Regan, Ann. Mag. Nat. Hist., ser. 8, vol. 12, p. 548, 1913. (Type Phallostethus dunckeri Regan, monotypic.)

Body elongate, compressed. Head rather small, pointed. Snout pointed. Eye rather large, advanced. Mouth little inclined, reaches below eye, protractile. Vertebrae 40. Scales moderate, of uniform size. Spinous dorsal? Soft dorsal short, far posterior or over hind end of long anal, base about $\frac{1}{3}$ body length. Caudal small. Pectoral moderate. Female with minute ventral, below pectoral, between vent and oviduct opening. Male with

large muscular appendage between
expanded hypercoracoids and
free terminally, bearing vent
on one side midway and
genital opening at hind end,
just behind articulation of
external movable, forwardly
directed, serrated bone;
anteriorly appendage ends in
long slender bone extending
forwards beneath chin, curved
towards side on which serrated
bone lies away from that on
which vent opens.

1844

Phallostethus dunckeri Regan

Phallostethus dunckeri Regan, Ann. Mag. Nat. Hist., ser. 8, vol. 12, p. 549, figs. 1–4, 1913 (type locality, Johore); Proc. Zool. Soc. London, 1916, p. 16, figs. 12–15, pl. 1, fig. A (anatomy).

— Myers, Amer. Mus. Novit., no. 295, p. 6, February 1, 1928 (compiled).

1 Amia grossidens Smith and Radcliffe

Amia (Amioides) grossidens Smith and Radcliffe, Proc. U. S. Nat. Mus., vol. 41, 1912, p. 440, pl. 36, fig. 1. West coast of Luzon (n. Lat. 16° 36' 36" E. Lng. 120° 11' 6" in 45 fathoms).

depth 7 1/3; head 4. Snout 3 3/4 in head; eye 3 1/5, little longer than snout; maxillary 3 1/2 in head; lower jaw horseshoe shaped as seen below, included in spatulate upper jaw; teeth conic, biserial, outer upper series curved, rather strong, especially front lateral ones; outer lateral teeth nearly horizontal; interorbital low.

Scales 40 in lateral series.

D. 8 to 10, fin height 3 1/4 in head; A. 26 to 28, fin origin about first 2/5 in total length, fin height 4 in head; caudal 1 2/3, slightly concave behind; least depth of caudal pedumcle 3 1/8; pectoral 1 2/5.

(Regan.)

Length 29 mm.

Malay Peninsula.

1846

Genus Phenacostethus Myers

Phenacostethus Myers, Amer. Mus. Novit., No. 295, p. 6, February 6, 1928. (Type Phenacostethus smithi Myers, orthotypic.)

Body elongate, well compressed. Head rather small. Snout short. Eye large, advanced. Mouth reaches below eye, lower jaw protruding. Scales rather large, deciduous. Head, nape and opercles scaleless. ~~Dorsal largely behind anal.~~ Spinous dorsal as short, rather soft spine above posterior half of anal. Soft dorsal shorter than anal, largely posteriorly. Anal origin slightly posterior, base moderate. Pectoral rather high, shorter than head. Pectoral girdle

expanded, skin covered and
largely free from body below.
Female with abdominal fringe,
anus, oviduct and ureter-
opening not in groove. Priapium
low, elongate, lacking ctenactinium
unless as irregular structure
beside opening of vas-deferens.
Hooked toyactinium projecting
forward from front part of
priapium, base emerging
from large, flat, oval pulvinulus.

One species.

abbreviatus), forgies (Pharus berda, Lentes virgatus, ~~[illegible]~~ Ll. japonicus, Ll. blochii, Gymnocranius griseus, Symphorus spilurus), an occasional bill fish (Tylosurus crocodilus), sharks (Eulamia torrak), skates (Raja tsenojii) and ~~[illegible]~~ rays (Rhinoptera javanica). Myriads of small fishes are heaped in piles, shoals of ambassids, young mackerels, scads, mackerel scads, gray mullets, scaled sardines, forkers, crevalles, lizard fishes, catalufas, mojarritas, etc. Often a large carp; with curious low set eyes (Hypophthalmichthys molitrix and Aristichthys nobilis) would forcefully remind us of characteristic river fishes of the Yang tse Kiang.

1848

Phenacostethus smithi Myers

Phenacostethus smithi Myers, Amer. Mus. Novit., No. 295, fig. 6, figs. 1–2, February 1, 1928 (type locality, Bangkok, Siam, freshwater stream).

Genus Amioides Smith and Radcliffe

Amioides Smith and Radcliffe, Proc. U. S. Nat. Mus. vol. 41, 1912, p. 440.

Type Amia (Amioides) - gro++idens Smith and Radcliffe, monotypic.

Body moderately long, compressed. Head large, compressed. mandible well protruded. Teeth in villiform bands in jaws and on palate, very narrow row on vomer and palatines. Two long slender incurved canines at front of ~~each~~ upper jaw, and single symphyseal canine below. Gill rakers moderate. Scales large, ctenoid. Dorsal with 7 spines and soft fin with 9 rays. Anal with 2 spines and 8 rays.

One species.

1849

Depth 5 to 5 1/2; head 4 1/3 to 4 1/2, width 1 3/4. Snout 4 1/2 in head from snout tip; eye 2 1/3, greatly exceeds snout; mouth rather large, reaches 1/6 below eye, length 3 in head from snout tip; teeth uniserial?.

Scales 30 to 33 in lateral series, - transparent, inconspicuous.

Spinous dorsal single small spine, inserted about opposite base of eleventh anal ray, length about 2 in eye; soft dorsal rays 7, first 1 1/2 in total head length; A. 14 or 15, fourth ray 1 2/5; caudal 1, slightly emarginate behind; least depth of caudal peduncle 3 1/2; pectoral 1 1/3.

Colorless. Back with slight dark shade, occiput darker. Myotomes very evident. Length 16.5 mm. (Myers.)

Siam.

Analysis of Families

a.[1] Lateral line absent or rudimentary.

b.[2] Mouth cleft lateral, not transverse; upper pharyngeals dentigerous, not forming filtering apparatus with gill rakers; vertebrae more than 30.

1850

Genus Neostethus Regan

Neostethus Regan, Proc. Zool. Soc. London, 1916, p. 2. (Type Neostethus lankesteri Regan, monotypic.)

Body elongate, strongly compressed. Head rather small. Eye large, lateral. Mouth terminal, well inclined, protractile. Jaws with 1 or 2 series of conical teeth. Scales 34 to 36 in lateral series. Dorsal with ~~Caudal moderate. Anal~~ one spine. Dorsal rays 5 or 6, above end of rather long anal. Anal rays 13 to 16. Caudal moderate. Pectoral high. One or 2 unserrated ctenactinia project from hind part of priapium. Female with anus, oviduct, ureter and abdominal fringe not in groove. Pair of papillae covering oviduct and ureter openings.

1857

Analysis of species

a: Body elongate; vertebrae 34 or 35; scales 34 to 36; A. 15 or 16.
lankasteri.

a.² Body more slender; vertebrae 36; scales 35 to 37; A. 13 to 15.
bicornis.

1852

Leostethus lankesteri Regan

Leostethus lankesteri Regan, Proc. Zool. Soc. London, 1916, p. 2, figs. 1–10, D2, pls. 1–4 (type locality, Jinar River, brackish water; Singapore).

— Weber and Beaufort, Fishes Indo Austral. Archipel., vol. 4, p. 382, fig. 103, 1922 (copied).

— Myers, Amer. Mus. Novit., No. 295, p. 8, February 1, 1928 (compiled).

Swainson, Chanda Buckanan-Hamilton, Parambassis Bleeker and Ambassis Cuvier, as defined by Fowler in 1905. As Chanda is the oldest generic name Chandidae follows as the accepted family name.

Analysis of the genera.

a'. Outer series of teeth, at least anteriorly in the jaws, conspicuously enlarged or somewhat canine like; scales usually quite small. Parambassis

a². Teeth uniformly small, none prominently enlarged, usually in villiform bands; scales large. Ambassis

Depth 4 4/5; head 4 9/10. Snout 3 1/2 in head from snout tip; eye 3 1/2; subequal with eye; mouth superiorly terminal; maxillary reaches front eye edge, length 2 1/3 in head from snout tip; jaws with 1 or 2 series of conic teeth; cheeks narrow, much less than eye diameter.

Scales 34 to 36 in lateral series.

No dorsal spine?; - dorsal rays 5 or 6, origin over bases of last anal rays, first branched ray 1 1/3 in total head length; A. 15 or 16, origin little nearer caudal base than hind eye edge, third ray 1 1/3 in total head length; caudal 4 1/10 in rest of fish, emarginate behind; least depth of caudal peduncle 2 1/2 in total head length; pectoral 1 1/3, rays 10 or 11.

1854

Anus, genital aperture and
urinary opening behind each
other in middle line below
bases of pectoral fins; posteriorly
abdomen compressed to edge.
bearing rayless fringe; just
behind vent pair of papillae,
one much larger than other,
partly cover depression into
which oviduct and ureter open.
(Regan.)
Length 30 mm.
Malay Peninsula.

1855

Leostethus bicornis Regan

Leostethus bicornis Regan, Proc. Zool. Soc. London, p. 14, fig. 11, 1916 (type locality, Kuala Langat, brackish water, Malay Peninsula).

— Myers, Amer. Mus. Novit., No. 295, p. 9, February 1, 1928 (compiled)

[D.5169.] Tibutu Island, Sulu Archipelago. February 27, 1905. Length 31 mm.

[D.5148.] Virun Island, Sulu Archipelago. February 16, 1908. Length 31 mm. [3961.]

[D.5149.] Virun Island. February 18, 1908. 2 examples. Length 37 to 39 mm.

2 examples. Uranda Island. March 5, 1908. Length 31 & 37 mm. [390, 389]

General color seal brown over silvery, with reddish underlaid shades. Vertical fins vermilion, paired fins very pale vermilion. When freshly captured black markings very intense, become paler later and reds fade light.

Body more slender than preceding. Snout 4 1/8 in head from snout tip; eye 2 3/4 to 2 4/5, greater than snout; maxillary subvertical, reaches eye, length 2 7/8 in head from snout tip; cheek very narrow below eye.

Scales 35 to 37 in lateral series.

D. rays not given; A. 13 to 15.

Priapium with 2 ctenactinia, both on proctal side, final shape uncertain. Length 25 mm. (Regan.)

Malay Peninsula.

Genus Gulaphallus Herre

Gulaphallus Herre, Philippine Journ. Sci., vol. 27, no. 4, p. 508, August 1925. (Type Gulaphallus eximius Herre, designated by Myers, Amer. Mus. Novit., no. 295, p. 9, February 1, 1928.)

Body strongly compressed. Head rather small. Snout bluntly rounded. Eye moderate, advanced. Maxillary not quite to eye. Teeth small, biserial in jaws. Scales moderate or small. Spinous dorsal small, with 2 spines, close before soft dorsal, both above larger and longer anal. Caudal moderate. Pectoral moderate, bases thick and muscular. Male with priapium furnished with long, slender,

bow shaped toxactinium, formed from hind part of priapium on one side and extending forward to chin or beyond; on other side or on median line ctenactinium, shorter and broader, partially erect or strongly curved over priapium to opposite side, with expanded or hooked tip. Between bases at or near hind end of priapium genital papilla, long penis like structure, with expanded tip where opening of vas deferens lies.

Analysis of Species

a.¹ Scales 56 to 58. eximius.

a.² Scales 36 to 38. mirabilis.

1859

Gulaphallus eximius Herre

Gulaphallus eximius Herre, Philippine Journ. Sci., vol. 27, no. 4, p. 509, pl. 1, pl. 2, figs. 1–2, 1925 (type locality, Imeva Vizcaya Province, Luzon). — Myers, Amer. Mus. Novit., no. 295, p. 9, February 1, 1928 (compiled).

[D.5141.] Jolo Light, S. 17° W. 5.50 miles. February 15, 1908. Length 30 mm.

[D.5142.] Jolo Light, S. 50° W. 3.90 miles. February 15, 1908. Length 41 mm.

[D.5174.] 3 examples. Jolo Light, E. 2.60 miles. March 5, 1908. Length 41 to 54 mm.

[D.5356.] North Balabac Straits, Palawan Island. January 5, 1909. Length 53 mm.

2 examples. Tangasinan Island, vicinity of Jolo. February 13, 1908. Length 33 to 36 mm.

[D.5145.] Jolo Light, S. 16° E. 0.85 miles. February 15, 1908. Length 30 mm.

[D.5517.] 1759. Port Jolo Light, S. 83° W. 10.5 miles. August 7, 1909. Length 39 mm.

[D.5179.] Romblon. March 25, 1908. Length 34 mm.

(1960)

Depth 4 1/4 to 4 3/4; head 5 2/3 to 5 5/6, width 2 1/10. Snout 3 1/2 to 3 4/5 in head from snout tip; eye 3 1/8 to 3 1/4, slightly greater than snout; maxillary reaches to or not quite to front eye edge; teeth pointed, fine, biserial in jaws, front upper outer little larger; interorbital 2 3/4 in head from snout tip, flat to slightly concave.

Scales 56 to 58 in lateral series; 14 transversely, 18 predorsal forward to naked region behind occiput.

D. II — I, 6, first spine of spinous dorsal 3 7/8 in total head length, first branched ray of second dorsal 1 7/8; A. I, 14 to 16, first branched ray 1 1/2 to 1 2/3; caudal 3 4/5 to 4 1/2 in rest of fish,

(1961

emarginate behind; least depth of caudal peduncle 1 7/8 to 2; pectoral 1 1/4,

Pale yellowish brown, with thin black line along side from above pectoral base to middle of caudal fin; Above scales bordered by fine brown dots, densest along median dorsal region. Brown specks scattered over ventral half of body in more or less evident longitudinal rows. Above anal base black line. Top of head more or less blackish or dark dotted. Lower lip and chin dusky or specked with dark brown. Fins pale. Males 35 mm.; females 41 mm.

(Herre.

Philippines.

1862

Gulaphallus mirabilis Herre

Gulaphallus mirabilis Herre, Philippine Journ. Sci., vol. 27, no. 4, p. 511, pl. 2, figs. 3-5, 1925 (type locality, Ibo River mouth, Angat River in Bulacan Province, 60 kilometers north east of Manila). — Ingers, Amer. Mus. Novit., no. 295, p. 10, February 1, 1928 (Molawin Creek, Los Baños, Luzon).

[D.5182.] 4310. Antonia Island, off eastern Panay. March 27, 1908. Length 30 mm.

37 examples. Cammahala Bay, Luzon. March 11, 1909. Length 21 to 44 mm.

51 examples. Cataingan Bay, Masbate Island. April 18, 1908. Length 27 to 39 mm. (Type no. 68401 U. S. N. M. Length 39 mm.)

[D.5137.] 2 examples. Jolo Light, S. 61° E. 1.30 miles. February 14, 1908. Length 27 to 37 mm.

[D.5138.] 3 examples. Jolo Light, S. 19° E. 2.50 miles. February 14, 1908. Length 30 to 35 mm.

[D.5140.] 2 examples. Jolo Light, S. 33° W. 6.10 miles. February 14, 1908. Length 31 to 37 mm.

1863

Depth 4 1/2 to 4 4/5; head 5 1/3 to 5 2/3.
Snout very short, blunt, 2 in eye;
eye 3 in head, 1 1/4 in interorbital.
Scales 36 to 38 in lateral
series; 16 transversely, 26 predorsal
forward to naked area behind
occiput.
D. II — I, 6; A. I, 16 or 17.
Length 32 mm. (Herre.)
Philippines.

1864

Genus Nirophallus Herre

Nirophallus Herre, Philippine Journ. Sci., vol. 31, p. 539, 1926. (Type Nirophallus bikolanus Herre, monotypic.)

Body strongly compressed, slender, elongate. Head compressed, pointed. Snout short, blunt. Eye large, elevated, little advanced. Maxillary reaches eye, oblique. Teeth minute, in bands in jaws. Vertebrae 33. Scales rather large, extend forward over nape to eyes and on opercle. Dorsal posterior, begins over last anal rays. Anal origin slightly postmedian. Caudal moderate, emarginate. Pectoral rather large. Priapium shaped like

1865

scalene triange, long side attached to under side of head and throat, from posterior part of lower jaw to beneath pectoral base; lower posterior angle irregular in shape, with rounded protruding hump bearing on one side long, slender, cylindrical bone, (tentaculum) extending forward to mouth and curving over to opposite side from its origin; in inner angle and at one side of expanded base short, curved, projecting organ with supporting bone which projects in very sharp claw at tip (ctenaculum); priapium ends at hind angle in soft hump which forms small, very slender, curved and twisted, apparently tabulate organ recurved upon priapium and fits into hollow between its origin

and base of toyactinium, more or
less hard semiosseous tip projecting
upward between base of toyactinium
and ctenactinium and at tip opening
of vas deferens.

1867

Iniophallus bikolanus Herre

Iniophallus bikolanus Herre, Philippine Journ. Sci., vol. 31, p. 540, pl. 3, figs. 1-6, 1926 (type locality, Lake Bato, Camarines Sur Province; Lake Lanigay, Albay Province, Luzon, Philippines). — Myers, Amer. Mus. Novit., no. 295, p. 11, February 1, 1928 (compiled).

species is said to have 9 anal rays and be without blackish longitudinal bands.

An interesting note given with the type of Amia versicolor is as follows:

A species not hitherto met with; 45 mm. long of a dull red-brown color, was taken in abundance in one seine haul. When placed alive in a bottle of water the water was immediately filled with the young. The eggs had already been noticed in the mouths of several specimens.

1968

Depth 4 3/5 to 5 1/5; head 4 1/3 to 5 2/3. Snout 4 in head from snout tip; eye 2 1/5 to 2 4/5, greater than snout, 1 1/10 to 1 1/4 in interorbital; maxillary reaches eye, length 2 1/2 in head; teeth very minute, 3 rows above, 4 below; interorbital flat.

Scales 32 in lateral series; 6 transversely, 25 predorsal.

D. I, 6, first branched ray 1 2/5 to 1 7/8 in total head length; A. I, 14, first branched ray 1 1/3 to 1 2/5; caudal 1, emarginate behind; least depth of caudal peduncle 2 to 2 1/4; pectoral 1 1/10 to 1 1/5.

In alcohol whitish with black axial line on side. Dorsal scales edges with black dots. Top of head black. Snout, sides of head and chin thickly sprinkled with black dots. Row of black dots begins forward of anal base and extends

back to join its fellow behind anal fin base, then continued as median dark line to caudal base. dorsal and caudal dusky, other fins clear. Ventral surface of folded priapium more or less blackened. Length 27 mm.

(Herre.)

Lake Bato, Camarines Sur Province and Lake Lagigay, Albay Province, Philippines.

1870

Family Hannatherinidae

Body rather robust. Maxillary exposed terminally, extends below eye. Premaxillary little protractile. Teeth in jaws and on palate. Gill rakers reduced to short projections. Vertebral 31/1 (of which 17 caudal). Dorsals joined basally, first spines pungent. Anal with 3 spines, fin opposite and like soft dorsal. Caudal rounded. Pectoral symmetrical, rounded, rather low. Ventral near pectoral.

Australia.

1871

Genus Hannatherina Regan

Hannatherina Regan, Ann. Mag. Nat. Hist., ser. 7, vol. 18, p. 451, December 1, 1906. (Type Hannatherina balstoni Regan, monotypic.)

Body moderately elongate, compressed. Mouth wide, oblique. Bands of small pointed teeth in jaws, on vomer and palatines. Scales rather large, cycloid. No lateral line. First dorsal of 8 or 9 pungent spines, soft dorsal of spine and 8 or 9 soft rays. Anal with 3 spines, soft fin opposite and like soft dorsal. Caudal rounded or subtruncate. Ventral inserted behind pectoral.

One species.

1872

Hannatherina balstoni Regan

Hannatherina balstoni Regan, Ann. Mag. Nat. Hist., ser. 7, vol. 18, p. 451, December 1, 1906 (type locality, Western Australia).

—Jordan and Hubbs, Stanford Publ., p. 19, 1919 (reference).—McCulloch, Mem. Austral. Mus., vol. 5, pt. 1, p. 113, June 29, 1929 (reference).

Pleuroperca new subgenus.
Type Pleuroperca oligacanthus
Bleeker.

Soft dorsal and anal with distinct front lobes, edges of fins emarginate. Body with variable vertical blue lines on flanks.
(πλευρά, rib, with reference to the blue parallel lines on the flanks; πέρκη, perch.)

Depth equals or little less than head; head 3. Snout shorter than eye, 3 in head; interorbital 4; jaws equal; maxillary reaches $\frac{1}{2}$ in eye; interorbital 4 in head. Gill rakers very short projections.

Scales 35. Head scaly above, except snout. Cheek and opercle scaly.

D. VIII or IX — I, 8 or 9, first dorsal origin above hind part of pectoral, second or third spines longest, soft fin higher, rays 1 $\frac{2}{3}$ in head; A. III, 8 or 9, opposite and like soft dorsal; caudal rounded or subtruncate; pectoral little over 2 in head; ventral I, 5, below middle of pectoral.

Brownish, with several dark vertical bars and indistinct

e.' Caudal truncate or rounded; head naked; premaxillary little protractile, front part separated by notch from lateral. Bedotiidae.

e.½ Caudal forked; head scaly, at least on sides; premaxillary fully protractile, front part not separated by notch from lateral.

f.' Dorsals rather close, first fin much higher than interdorsal space; body well compressed, deep.

f.' Dorsals very close, first without filament or pungent spine; A. 14 to 16. Rheoclidae.

f.½ Dorsals moderately close, first spine usually pungent, and one spine filamentous in male; anal usually elongate. Melanotaeniidae.

f.½ Dorsals widely separated, interdorsal greater than first dorsal; body slender, usually not strongly compressed. Atherinidae.

broken lateral stripe or series of spots. Length 50 mm. (Regan.)
Western Australia.

1875

Family Melanotaenidae

Body much compressed, oblong, depth increasing with age and upper and lower profiles more convex, especially lower. Predorsal profile usually sloping in nearly straight line to snout. Head more or less pointed, crown flattened. Eye moderate or large, advanced. Mouth moderate or small, nearly or quite reaches front of eye. Premaxillaries border upper jaw, slightly curved or abruptly bent. Maxillaries thin, rod like, exposed slightly or not when mouth closes. Lips thick or not. Teeth conic, pointed, in 1 or more rows in jaws, often extending on outside of lips. Teeth present or not on vomer, palatines and tongue. Gill rakers 12 to 16, short and dentated or 30 long and slender.

1876

Branchiostegals 5 or 6. Scales regular or irregular, 30 to 60 in lateral series, smooth or with faint or deep crenulations on or along hind or apical margins. No lateral line, or only as shallow pit on some scales. First dorsal usually with spine and 3 to 6 more or less flexible undivided rays, origin above or behind vent, exceptionally with 4 or 5 strong spines. Second dorsal with spine and 8 to 17 soft rays, last may be extended. Anal with spine and 17 to 30 soft rays, last may also be extended, origin before, below or behind first dorsal origin. Ventral with spine and 5 rays, origin below or behind pectoral origin.

1877

Analysis of Genera

a.' Melanotaeniinae. Body typically very deep and sharply compressed; head depressed, pointed; anal well elongated, origin before or not far behind first dorsal origin; first ray of both dorsals and anal strong pungent spine (except Rhadinocentrus).

b.' Dorsal spines all pungent; jaws and dentition as in Chilatherina.

Centratherina.

b.² Only first dorsal spines in both dorsals pungent.

c.' Lower jaw included; gill rakers few.

d.' Mouth rather small, gape straight or slightly curved; front expansion of premaxillary little developed; outer mandibular teeth little enlarged.

Chilatherina.

d.² Mouth rather large, gape curved; premaxillary with well developed anterior expansion; series of teeth extend to outer side of jaws; outer

series of teeth not enlarged.

Rhombosoma.

c.[2] Jaws equal anteriorly or slightly projects; front premaxillary expansion fits emargination in lower jaw; outer series of jaw teeth enlarged; teeth on vomer and palatines.

e.[1] Scales 32 to 37, edges nearly or quite entire; lower gill rakers 12 to 16, moderate; jaw teeth conic. Melanotaenia.

e.[2] Scales 55 to 60, edges deeply crenulated; lower gill rakers 30, long, fine; jaw teeth stouter, more obtuse. Glossolepis.

b.[3] All fin spines flexible; lower jaw projects; palate apparently toothless; scales large, edges nearly or quite entire. Rhadinocentrus.

a.[2] Pseudomugilinae. Body more slender and elongate; head more compressed, moderately pointed;

anal less elongate, placed well behind or nearly opposite first dorsal; all fin spines flexible.

f.' Teeth rather small, mostly confined to jaws.

g.' Lower jaw projects; second dorsal spine extended, especially in male; anal short, falcate. Pseudomugil.

g.² Lower jaw included; first dorsal spine extended; anal moderately long, rounded. Telmatherina.

f.² Teeth strong, in jaws, on vomer, palatines and tongue; dorsal spines, especially first, extended. Atherinosoma.

1880

Genus Centratherina Regan

Centratherina Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, p. 283, 1914. (Type Rhombatractus crassispinosus Weber, monotypic.)

Body much compressed, elongate; predorsal profile nearly straight line to snout; ventral profile convex. Head pointed, flat above. Upper jaw prominent, premaxillaries slightly curved and without abrupt bend between horizontal and lateral part. Lips thickened. Jaws with several rows of pointed teeth, extend to outside of lips; palate and tongue toothless.

1881

Branchiostegals 5. ? Scales
40 to 44 in lateral series,
nearly smooth. No lateral line.
First dorsal with 4 or 5 spines,
first stronger. Second dorsal
with spine and 8 to 11 rays.
Anal with weak spine and
23 to 26 rays, origin well
before first dorsal origin.
Pectoral rays 7/13 or 14. Ventral
with slender spine and 5 soft
rays, begins somewhat behind
pectoral origin.

Fresh-waters of northern
New Guinea.

Serranus roseus Valenciennes, Hist. Nat. Poiss., vol. 2, 1828, p. 306. Tahiti.

Serranus analis Valenciennes, Hist. Nat. Poiss., vol. 2, 1828, p. 307. New Ireland; vol. 6, 1830, p. 514 (note). — Lesson, Voy. Coquille, Zool., vol. 2, pt. 1, 1830 (1831), p. 235 (New Ireland). — Günther, Cat. Fishes Brit. Mus., vol. 1, 1859, p. 123 (copied). — Guichenot, Notes Ile Réunion, vol. 2, 1862, p. 73.

Epinephelus analis Bleeker, Atlas Ichth. Ind. Néerl., vol. 7, 1873-76, p. 38 (Sumatra and Celebes); vol. 8, 1876-77, pl. (51) 329, fig. 5.

Serranus rufus Hombron and Jacquinot, Voy. Astrolabe, Zool., vol. 3, 1853, p. 35, pl. 1, fig. 4. No locality.

Serranus sonnerati (part) Günther, Cat. Fishes Brit. Mus., vol. 1, 1859, p. 122 (Louisades).

1882

Centratherina crassispinosa (Weber)

Rhombatractus crassispinosa Weber, Nova Guinea, vol. 9, pt. 4, p. 567, 1913 (type locality, Buarón; Begowori River; Kaiserin Augusta River, New Guinea).

Centratherina crassispinosa Regan, Trans. Zool. Soc. London, vol. 20, pt. 4, p. 283, pl. 31, fig. 2, 1914 (cotype). — Jordan and Hubbs, Stanford Public., p. 22, 1919 (reference). — Weber and Beaufort, Fishes Indo-Austral. Archip., vol. 4, p. 306, fig. 81, 1922 (Tawarin, Sermowai, Kaiserin Augusta Rivers). — Fowler, Mem. Bishop Mus., vol. 10, p. 121, 1928 (compiled).

Cephalopholis aurantius (Cuvier).

Serranus aurantius Cuvier, Hist. Nat. Poiss., vol. 2, 1828, p. 305. Seychelles. — Günther, Cat. Fishes Brit. Mus., vol. 1, 1859, p. 118 (copied). — Elera, Cat. Fauna Filip., vol. 1, 1895, p. 461 (Cebu).

Epinephelus aurantius Bleeker, Atlas Ichth. Ind. Néerl., vol. 7, 1873-76, p. 37, pl. 20 (298), fig. 3 (Sumatra, Celebes, Ternate, Batjan, New Guinea). — Savage, Hist. Nat. Madagascar, Poiss., 1891, p. 60, pl. 9, fig. 5. — Boulenger, Cat. Fishes Brit. Mus., vol. 1, 1895, p. 193 (North Celebes and Louisiades). — Steindachner, Denkschr. Akad. Wiss. Wien, vol. 71, pt. 1, 1907, p. 125 (Gizhin, South Arabia). — Weber; Siboga Exped., vol. 57, Fische, 65, 1913, p. 201 (Banca).

Cephalopholis aurantius Fowler, Proc. Acad. Nat. Sci. Phila., 1925, p. 220 (Malagora Bay).

1883

Depth 3 to 3 1/5; head 4 to 4 1/3. Snout 3 1/5 in head; eye 3 1/3 to 4, 1 1/5 in snout, 1 1/5 in interorbital; mouth about 4/5 in snout; interorbital 3 1/10, low.

Scales 40 to 44 in lateral series; 21 to 26 predorsal to occiput, 13 transversely, 3 or 4 rows on cheek. Opercular scales large, superior small.

D. IV or V — I, 8 to I, 12, first spine 1 7/8 in head, first branched ray 1 4/5; A. I, 23 to 26, fin height 3; caudal 1 1/8, deeply emarginate; least depth of caudal peduncle 2 1/5; pectoral 1 3/4, rays I, 13 or I, 14; ventral rays I, 5, fin 1 3/4 in head.

Light brown in alcohol, yellowish below with silvery hue; Traces of lateral dark band. Fins hyaline or dusky, upper and lower caudal edges more or less blackish. Length 127 mm.

(Weber and Beaufort.)

North New Guinea.

1884

Genus Chilatherina Regan

Chilatherina Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, p. 282, 1914. (Type Rhombatractus fasciatus Weber, designated by Jordan and Hubbs, Stanford Public., p. 22, 1919.)

Body much compressed, oblong; dorsal profile greatly convex with age, less so in young; ventral profile convex. Head rather pointed. Upper jaw more or less prominent; premaxillaries gently curved, without abrupt bend laterally. Lips thickened, especially upper. Teeth in several rows in jaws, reduced to 1 row laterally; present on vomer and base of tongue;

1885.

absent or present on palatines.
Lower gill rakers 14, short.
Branchiostegals 6. Scales
smooth or indistinctly crenulated
at hind edges, rather small,
40 to 42 in lateral series.
No lateral line or only as few
scales, each with a shallow pit.
First dorsal with spine and 3 to 5
soft rays; second dorsal with
curved spine and 10 to 16 rays.
Anal with weak spine and 22 to
25 soft rays, origin in advance
of first dorsal origin. Caudal
deeply forked. Pectoral rays
I, 12 to 15. Ventral with slender
spine and 5 soft rays, begins
somewhat behind pectoral origin.

Fresh waters of northern New
Guinea.

anals and caudal spotted, last with dusky gray band close to edge.

Red Sea, East Africa, Zanzibar, Mauritius, Reunion, Madagascar, Mascarene Islands, Seychelles, Ceylon, India, East Indies, Philippines, Riu Kiu, Melanesia, Polynesia.

A very handsome fish and variable in its coloration. According to Rüppell's figure of Serranus louti only the margin of the pectoral is yellow, though both Bleeker and Lucas and Gaimard show a plain or uniformly colored pectoral without any darker basal color. Jordan and Seale have figured their Samoan variety with the broad blackish band along the upper part of the side as a distinct species, Variola flavimarginata. We have 3 examples

1886

Analysis of Species

a.' Head 4 1/3 to 5 4/5; predorsal scales 19 to 21; soft dorsal rays 13 to 16. fasciata.

a.² Head less than 4; predorsal scales 22 to 27; soft dorsal rays 10 to 12. sentaniensis.

Chilatherina fasciata (Weber)

Rhombatractus fasciatus Weber, Nova Guinea, vol. 9, pt. 4, p. 565, 1913 (type locality, mouth of Vermowai River; Buarin; Ijao; tributary Kaiserin August River, New Guinea).

Chilatherina fasciata Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, p. 282, pl. 31, fig. 4, 1914 (cotype). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 305, 1922 (Mamberamo and Idenburg River; Vermowai; Ijao; tributary Kaiserin Augusta River). — Fowler, Mem. Bishop Mus., vol. 10, p. 121, 1928 (compiled).

D. IX, 13, I, 14, I, ninth spine 3 to 3 1/2 in total head length, tenth ray 2 to 2 3/5; A. III, 8, I, third spine 3 4/5 to 4, fifth ray 1 2/5 to 1 7/8; caudal 1 to 1 1/3, deeply lunate with produced points; least depth of caudal peduncle 3 to 3 1/4; pectoral 1 2/3 to 1 3/4; ventral 1 2/3 to 2.

(1) Pale brownish generally, fins but little darker and everywhere with numerous small whitish dots, except on paired fins and lower surface of head; in alcohol dots ~~regions~~ often dusky or deep brown. Iris deep yellow. When fresh body orange, marked with rather small, numerous, rosy purple spots on body above. On lower surface spots pale rosy, some almost faded pale white. Dorsals,

1888

Chilatherina fasciata Jordan and Hubbs, Stanford Public., p. 22, 1919 (reference).

which before uppermost. Gill rakers 7 to 10 + 14, 3/4 of gill filaments, which equal eye; 6 to 8 above and 5 or 6 below rudimentary.

Scales 83 to 120? in lateral line to caudal base and 8 to 12 more on latter; tubes 64 or 65 in lateral line to caudal base and 3 or 4 more on latter; 15 to 20 scales above, 30 to 40 below; 20 to 28 rows on cheek; scales minute on predorsal, breast, chest and fin bases; snout, jaws, lips, maxillary and branchiostegal region naked; with age maxillary expansion largely finely scaled; fins all finely scaled like body. Scales with 4 to 12 basal radiating striae; 26 to 30 apical denticles, with 4 to 6 transverse series; circuli fine.

1889

Depth 3 to 5 1/3; head 4 1/3 to 5 4/5. Eye 3 to 3 1/5 in head, somewhat less than interorbital space, which equals snout; maxillary concealed when retracted; upper jaw prominent; mouth opening reaching behind middle of snout, not to front of eye; premaxillaries ~~are~~ gently curved; upper lip thickened; jaws with several series of strong pointed teeth anteriorly, diminishing in number posteriorly, forming single series on lateral part of premaxillaries and extending outside mouth on upper lip and less so on lower lip; small teeth on vomer and base of tongue, none on palatines.

Scales 40 to 42 in lateral series; 12 to 13 transversely, 19 to 21 predorsal forward to occiput, 2 rows on cheek with 3 rows posteriorly. Large scales on opercles, smaller above. Scales smooth or indistinctly crenulated

at hind border.

D. I, 4 or 5 — I, 13 to 16, first dorsal spine longer than postorbital, longer than that of second dorsal, which more curved and much longer than anal spine which about long as eye; A. I, 23 to 25 (26), anal base longer than space between first dorsal origin and end of second dorsal; pectorals curved, equal to or longer than head without snout; rays I, 14 or 15; ventral rays I, 5.

In alcohol brownish above, lighter below, with more or less distinct longitudinal black band and series of transverse narrow bands, forming about right angles with longitudinal band in lower half body. Bands sometimes

Depth 3 2/5 to 3 1/3; head 3 1/5. Eye 3 1/2 to 4 in head, 1 1/2 in snout, which somewhat longer than interorbital; front maxillary end usually exposed when mouth closes; upper jaw slightly prominent; mouth cleft reaching behind middle of snout, not to eye; premaxillaries gently curved, without abrupt bend; jaws with several rows of pointed teeth extending anteriorly outside lips, which thickened; small teeth on vomer, palatines and base of tongue;

Scales 41 or 42 in lateral series; 13 transversely, 22 to 24 predorsal forward to occiput, 2 rows on cheeks. Large scales on opercle, smaller above. Scales smooth or indistinctly crenulated.

D. I, 3 or 4 — I, 10 to 12, spine of first dorsal longer than spine of second dorsal, much longer than anal spine, which shorter than eye, first

1891

obsolete. Fins dusky. Length 131
mm.

(Weber and de Beaufort.)

Northern New Guinea.

1892

Chilatherina sentaniensis (Weber)

Rhombatractus sentaniensis Weber, Nova Guinea, vol. 5, pt. 2, p. 235, pl. 11, fig. 3, 1908 (type locality, Lake Sentani, north New Guinea); vol. 9, pt. 4, p. 564, 1913 (Lake Sentani).

Chilatherina sentaniensis Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, p. 282, 1914 (cotypes). — Jordan and Hubbs, Stanford Public., p. 22, 1919 (reference). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 309, 1922 (Lake Sentani and River Selanto, New Guinea). — Fowler, Mem. Bishop Mus., vol. 10, p. 121, 1928 (compiled).

depth 3 to 3 1/4; head 2 2/5 to 3, width 2 1/5 to 2 2/5. Snout 3 1/2 to 3 4/5 in head from snout tip; eye 4 2/3 to 5 3/4, 1 1/4 to 1 2/5 in snout, greater than interorbital; maxillary reaches opposite hind eye edge, expansion 3/5 to 7/8 in eye, length 2 1/10 to 2 1/6 in head from snout tip; teeth in villiform bands in jaws, inner of upper anteriorly and along all inner edge of mandible little enlarged, also outer upper series enlarged; pair of canines in front of each jaw and another close set pair on each mandibular ramus medianly; bands of small teeth on vomer and palatines; interorbital 6 1/5 to 7 1/2, level, scarcely convex; preopercle edge entire; opercular spines 3, median closer to lower

1893

Depth 2 $\frac{2}{5}$ to 3 $\frac{1}{3}$; head 3 $\frac{2}{5}$ to 3 $\frac{3}{4}$. Snout 2 $\frac{7}{8}$ in head; eye 3 $\frac{1}{2}$ to 4, 1 $\frac{1}{3}$ to 1 $\frac{1}{2}$ in snout; mouth reaches $\frac{3}{4}$ in snout, length in profile 3 in head; interorbital less than snout, low.

Scales 41 or 42 in lateral series; 13 transversely, 22 to 27 predorsal forward to occiput, 2 rows on cheek. Large scales on opercle, smaller above. Scales smooth or indistinctly crenulated.

D. $\overline{\text{I}}$, 3 or 4 — 10 to 12, first spine 3 $\frac{1}{3}$ in head, first branched ray 2 $\frac{1}{3}$; A. $\overline{\text{I}}$, 22 to 24, fin height medially 3 $\frac{1}{3}$; caudal 1 $\frac{1}{5}$, emarginate; least depth of caudal peduncle 2 $\frac{1}{2}$; pectoral 1 $\frac{11}{2}$, rays I, 12; ventral rays $\frac{\text{I}}{5}$, fin 2 $\frac{1}{2}$ in head.

In alcohol reddish brown above, silvery below, with longitudinal blackish bands and sometimes narrow cross-bars on lower half of body. Fins blackish. Length 110 mm. (Weber and Beaufort.)

North New Guinea.

1894

Genus Rhombozoma Regan

Rhombozoma Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, p. 278, March 1914. (Type Hematocentrix novae guineae Ramsay and Ogilby.

with Plectropomus maculatus but with an entirely different color pattern. Also with age the soft dorsal and anal have an elevated front lobe.

8961. Albay Gulf, Luzon. June 21, 1909. Length 315 mm.

8134. Alibijaban Island, Ragay Gulf, Luzon. March 6, 1909. Length 312 mm.

5623. Busin Harbor, Burias Island. April 22, 1908. Length 330 mm.

9176. Gigoxo Point, Samar. July 28, 1909. Length 213 mm. [1729]

9293. Murcielagos Bay, Mindoro. August 9, 1909. Length 393 mm.

9334 and 18586. Murcielagos Bay. August 21, 1909. Length 211 to 650 mm.

7384. Port Caltom, Busuanga Island. December 15, 1908. Length 311 mm.

1895

Body much compressed, oblong, deeper with age, upper predorsal profile nearly straight in young, convex with age; lower profile more convex with age. Upper jaw longer. Mouth large, nearly or quite reaches eye. Premaxillaries with abrupt bend midway. Lips thick. Pointed conical teeth in several rows in jaws, extend to outside of lips; patch of teeth on vomer; teeth on palatines more or less conspicuous; present or absent on base of tongue. Branchiostegals 6. Scales smooth or with faint crenulations on hind apical edges, moderate, 32 to 39 in lateral series. Lateral ~~series~~ line absent or as some scales

6118. Iloilo market, Iloilo. June 7, 1908. Length 218 mm. [~~6118~~ 93]. Top of head and back bistre, shading to burnt umber on sides and breast. Head, body and fins thickly dotted with small azure blue spots. Iris bistre, golden around pupil, body of eye with blue spots. Branchiostegals and membranes burnt umber. Inside mouth vermilion. Spinous dorsal tawny olive, notches of membranes with reddish tinge. Soft dorsal, caudal and anal bistre. Pectoral bistre, margin broadly coral red, with narrow black submarginal line. Ventral light brown.

14347. Limbones Cove, Manila Bay. February 8, 1909. Length 125 mm.

each with shallow pit. First dorsal with spine and 3 to 5 flexible rays. Second dorsal with spine and 11 to 17 soft rays. Anal with weak spine and 18 to 30 soft rays, origin before, below or somewhat behind first dorsal origin. Caudal forked. Pectoral with simple ray and 11 to 14 branched rays. Ventral with slender spine and 5 soft rays, begin somewhat behind pectoral origin.

Fresh-waters of New Guinea, Waigiu and Aru.

7785. Candaraman Island, north Balabac Strait. January 4, 1909. Length 239 mm.

16657. Camino Island, near Daet. June 15, 1909. Length 189 mm.

8282. Cammahala Bay, Luzon. March 11, 1909. Length 242 mm.

8030. Capulaan Bay, Pagbilao, Chica Island. February 24, 1909. Length 247 mm.

11846. Caracaran, Batan Island. June 8, 1909. Length 162 mm.

7735. Cayisigan Island, Balabac. January 2, 1909. Length 273 mm.

5348. Cebu market, Cebu. April 4, 1908. Length 218 mm.

6527. Cebu market. April 5, 1908. Length 190 mm.

5429. Cebu market. April 7, 1908. Length 232 mm.

1897

Analysis of Species.

a.' Upper jaw prominent; scales 32 to 40.

b.' Second dorsal with less than 18 rays; scales less than 40; anal origin before, opposite or behind first dorsal; pectoral longer than head without snout; no vertical black band.

c.' Lateral scales 34 to 36; anal origin below or slightly before or behind first dorsal origin; 12 to 16 predorsal scales.

d.' Predorsal scales 12. trifasciata.

d.² Predorsal scales 15 or 16. goldiei.

c.² Lateral scales 37 to 39; anal origin before dorsal origin; 17 to 19 predorsal scales. lorentzi.

b.² Second dorsal rays 18 to 21; scales 38 to 40; anal origin before dorsal origin; pectoral equal head without snout; vertical black band between black lateral band and anal base. vanheurni.

1998

a.² Lower jaw somewhat prominent; scales 30 to 32; anal origin opposite first dorsal origin; anal rays 17 to 21; pectorals shorter than head without snout.

praecox.

1899

Rhombosoma trifasciata Rendahl

Rhombosoma trifasciata Rendahl, Medd. Zool. Mus. Kristiania, No. 5, p. 182, 1922 (type locality, Mary River, Northwest Australia). — Mc Culloch, Mem. Austral. Mus., vol. 5, pt. 1, p. 112, June 29, 1929 (reference).

Depth 2 1/2; head 3 3/5. Eye 3 2/3 in head, 1 1/4 in snout, 1 2/5 in interorbital; premaxillaries reach eye, length 2 2/3 in head; maxillary concealed when retracted; teeth subequal, outer series not enlarged, on vomer and hind half of tongue.

Scales 34 in lateral series, 1/2 transversely, 12 predorsal, 2 rows on cheeks. Opercle scaly. Scales cycloid, with

19823. Mactan Island, Cebu.
March 25, 1909. Length 112 mm.

14550. Maculabo Island, east coast
Luzon. June 14, 1909. Length 101 mm.

19666. Makesi Island, Palawan.
April 5, 1909. Length 100 mm.

6197 and 20023. Malapascua Island,
north of Cebu. March 16, 1909. Length 151 mm.

12017 and 12524. Malcochin Harbor,
Liniapacan Island. December 19, 1908.
Length 138 to 151 mm.

12352, 16395, 16396, 21135. Mansalay,
Mindoro. June 4, 1908. Length 50 to 115 mm.

16618. Maribojoc Bay, Bohol Island.
March 26, 1909. Length 132 mm.

16495. Masamat Bay, Quinalasag Island. June 12, 1909. Length 65 mm.

9047, 12283, 15955. Masbate Reef,
Masbate. April 20, 1908. Length 128 to 143 mm.

17447 and 17630. Monipog Island,
Anabayas Islands. March 5, 1909.
Length 135 to 150 mm.

notched margin.

D. V — I, 13, first dorsal origin
= =
above eighth lateral scale,
second dorsal origin above
fifteenth; A. I, 20, origin below
=
middle of first dorsal or opposite
seventh lateral scale; pectoral
rays I, 13, slightly over $\frac{3}{5}$ of head.
=
Light brown. Along sides of
body, over adjacent $\frac{2}{3}$ of scales,
broad blackish brown bar on
fifth and sixth longitudinal rows
of scales, from above pectoral base
and follows upper border of
opercle to upper hind eye edge.
On both sides, except on head, bar
bordered by very light or whitish
bar, ventral broadest and half
width of dark one. Dark median
predorsal line. Length 91 mm.
(Rendahl.)

Northwest Australia.

1901

Rhombosoma goldiei (Macleay)

Aristeus goldiei Macleay, Proc. Linn. Soc. New South Wales, vol. 8, 1883 (1884), p. 269 (type locality, Goldie River, New Guinea). — Perugia, Ann. Mus. Civ. Stor. Nat. Genova, vol. 34, p. 548, 1894 (Haveri).

Rhombatractus goldiei Ogilby, Proc. Linn. Soc. New South Wales, vol. 21, 1896, p. 134 (name). — Jordan and Seale, Bull. Bur. Fisher., vol. 25, p. 216, 1905 (1906) (reference). — Weber and Beaufort, Fishes Indo-Austral. Archip., vol. 4, p. 304, 1923 (Timena, Sekanto, Bégowri, Sermowai, Njao, Wagani, Himika, Aru Islands).

preopercle angle; upper half of maxillary expansion scaly, with 13 transverse series of small scales; body scales without auxiliary small basal scales; fins all covered basally with small scales, especially soft vertical fins. Scales with 6 to 9 basal radiating striae; 28 to 30 apical denticles with 3 or 4 transverse series of basal elements; circuli moderately small.

D. $\underset{\equiv}{IX}$, 16, $\underset{=}{I}$ or 15, $\underset{=}{I}$, third spine $3\frac{1}{5}$ to $3\frac{2}{5}$ in total head length, twelfth ray $2\frac{1}{8}$ to $2\frac{2}{5}$; A. $\underset{=}{III}$, 8, $\underset{=}{I}$ or 9, $\underset{=}{I}$, second spine $2\frac{3}{5}$ to $3\frac{1}{8}$, sixth ray 2 to $2\frac{1}{5}$; caudal $1\frac{2}{3}$ to $1\frac{3}{4}$, convexly rounded behind; least depth of caudal peduncle $2\frac{3}{5}$ to $3\frac{1}{5}$; pectoral $1\frac{1}{2}$ to $1\frac{3}{5}$; ventral $1\frac{3}{4}$ to 2.

In alcohol dark brown generally,

1902

Rhombosoma goldiei Regan, Trans. Zool. Soc. London, p. 339, figs. 1–2, 1914 (notes on types). — Jordan and Hubbs, Stanford Publ., p. 23, 1919 (reference). — Fowler, Mem. Bishop Mus., vol. 10, p. 121, 1928 (compiled); vol. 11, no. 5, p. 324, 1931 (types of Hematocentrus novae-guineae).

jaws, front canines small and often double; bands of small teeth on vomer and palatines, none on tongue; nostrils subequal or hind one but little larger; interorbital 6 1/3 to 7 1/2, slightly convex, hind preopercle edge minutely serrated, serral often obsolete with age; opercular spines 3, lower most advanced and closer to median. Gill rakers 12 + 20, lanceolate, longer than gill filaments or 1 1/3 in eye; 10 above and below rudimentary.

Scales 85 to 97 in lateral line to caudal base and 13 to 15 more on latter; tubes 45 to 56 in lateral line to caudal base and 4 to 8 more on latter; 21 to 23 scales above lateral line, 25 to 31 below; 70 to 73 predorsal, 30 to 35 rows across cheek to

1903

? Hematocentris novae-guineae Ramsay and Ogilby, Proc. Linn. Soc. New South Wales, ser. 2, vol. 1, 1886 (1887), p. 13 (type locality, Strickland River, New Guinea). — Regan, Proc. Zool. Soc. London, 1914, p. 339 (type said to be mislaid).

Rhombatractus novae-guineae Ogilby, Proc. Linn. Soc. New South Wales, vol. 21, pt. 2, 1896, p. 134 (reference). — Jordan and Seale, Bull. Bur. Fisher., vol. 25, 1905 (1906), p. 216 (reference).

Rhombozona novae-guineae Regan, Trans. Zool. Soc. London, vol. 20, pt. 4, pp. 276, 283, pl. 31, figs. 5–6, 1914 (Iwimiki River, New Guinea); Proc. Zool. Soc. London, 1914, p. 339.

Epinephelus argus (non Schneider) Bleeker, Atlas Ichth. Ind. Neerl., vol. 7, 1873-76, pl. (42) 320, fig. 3.

depth $2\frac{4}{5}$ to 3; head $2\frac{1}{3}$ to $2\frac{1}{2}$, width $2\frac{1}{3}$ to $2\frac{3}{5}$. Snout 4 to $4\frac{1}{5}$ in head from snout tip; eye $4\frac{3}{4}$ to 7, $1\frac{1}{8}$ to $1\frac{7}{8}$ in snout, greater than interorbital in young to $1\frac{1}{5}$ with age; maxillary reaches beyond eye, expansion $1\frac{1}{3}$ in eye in young to little greater than eye diameter in adult, length $1\frac{7}{8}$ to $2\frac{1}{10}$ in head from snout tip; teeth fine, conic, in bands in jaws; wide set pair of canines above, often double; outer maxillary row of teeth slightly enlarged and inner front teeth longest and hinged; mandibular teeth with inner row longest, hinged, resolving into 3 rows on sides of

1904

Rhombatractus affinis Weber, Nova Guinea, vol. 5, pt. 2, p. 234, pl. 11, fig. 5, 1908 (type locality, Timena, Bay at Yentani - Vee mouth, fresh water; Yekanto and Wagani River); vol. 9, pt. 4, p. 565, 1913 ( ).— Regan, Trans. Zool. Soc. London, vol. 20, pt. 4, p. 284, 1914.

Rhombatractus weberi Regan, Ann. Mag. Nat. Hist., ser. 8, vol. 1, p. 155, 1908 (type locality, ~~Fly River~~ Togeri, British New Guinea; Trans. Zool. Soc. London, vol. 20, pt. 4, p. 284, 1914.

Cephalopholis cyanostigma (Valenciennes).

Serranus cyanostigma Valenciennes, Hist. (Kuhl and Van Hasselt)

Nat. Poiss., vol. 2, 1828, p. 359. Java; Régne Animal, Ed. Ill. Cuvier, 1829, pl. 2, fig. 2. — Günther, Cat. Fishes Brit. Mus., vol. 1, 1859, p. 117 (copied). — Ehrenberg, Cat. Fauna Filip., vol. 1, 1895, p. 460 (Paragua).

Epinephelus cyanostigma Bleeker, Atlas Ichth. Ind. Néerl., vol. 7, 1873-75, p. 42 (Sumatra, Java, Banjoewangi, Islands, Celebes, Flores, Batjan, Amboina); vol. 8, 1876-77, p. 152 (note on figure). — Boulenger, Cat. Fishes Brit. Mus., vol. 1, 1895, p. 181 (Amboyna). — Weber, Siboga Exped., vol. 57, Fischer, 1913, p. 199 (Valeyer).

Petrometopon cyanostigma Fowler, Journ. Acad. Nat. Sci. Phila., ser. 2, vol. 12, 1904, p. 521 (Padang, Sumatra).

1905

Rhombotractus kochii Weber

Rhombatractus kochii Weber, Nova Guinea, vol. 5, pt. 2, p. 237, pl. 11, fig. 6, 1908 (type locality, Wasserlaufe mouth of Meraube River and Etna Bay, Southern New Guinea, in brackish water).

Rhombatractus kochi Weber, Nova Guinea, vol. 9, pt. 4, p. 562, 1913 (Alkmaar and Beaufort River). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 302, fig. 70, 1922 (Meraube, Lorenty, Beaufort Rivers, brook at Etna Bay).

12681. San Miguel Island, Tabaco Bay, east coast Luzon. June 4, 1909. Length 123 mm.

12212, 20972, 20973. Santa Cruz Island, Marinduque. April 24, 1908. Length 111 to 120 mm.

16691. Surigao, east coast Mindanao. May 8, 1908. Length 85 mm.

14216 and 14217. Jagana Island, Jolo Sea. January 7, 1907. Length 131 & 132 mm.

18204. Tara Island, Mindoro Strait. December 14, 1908. Length 147 mm.

9521 and 9522. Tara Island. December 15, 1908. Length 137 to 148 mm

7944. Tataan, Tawi Tawi Group. February 20, 1908. Length 157 mm. [197.]

10456. Tilig, Lubang Island, vicinity Southern Luzon. July 14, 1908. Length 106 mm.

10885, 10886, 15529. Tilig. July 15, 1908. Length 88 to 142 mm.

1906

Rhombosoma catherinae Beaufort

Rhombatractus catherinae Beaufort, Zool. Anzeiger, vol. 36, p. 250, 1910 (type locality, Wai Semie; Wei Meniel; Bajow River; Rabiai River. [Waigiu]); Bijdr. Dierk. Amsterdam, pt. 19, p. 106, pl. 2, fig. 1, 1913 (types). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 303, 1922 (Waigiu).

Rhombosoma novae-guineae (not Ramsay and Ogilby) Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, p. 388, 1914 (part).

much smaller.

6722. Alibijaban Island, Ragay Gulf, Luzon. March 6, 1909. Length 215 mm.

11294. Alimango Bay, Burias Island. March 5, 1909. Length 185 mm.

18930 and 18931. Bataan Island, east coast Luzon. June 5, 1909. Length 149 to 198 mm.

8671. Biri Channel, east coast Luzon. June 2, 1909. Length 260 mm.

7476 and 7477. Bolalo Bay, Palawan Island. December 21, 1908. Length 220 to 246 mm.

8116. Burias Island. March 5, 1909. Length 235 mm.

8347. Buang Bay, Talajit Island. March 15, 1909. Length 27[illegible] mm.

11065, 11067, 14538, 14539, 18[illegible]7, 22286. Butauanan Island, east coast of Luzon. June 13, 1909. Length 192 to 193 mm.

1907

Rhombatractus senckenbergianus

Weber, Abhandl. Senckenberg.
Nat. Gesell., vol. 34, p. 25, pl. 1,
fig. 2, 1911 (type locality,
Teranganan Island, Aru Group,
fresh water). — Regan, Trans.
Zool. Soc. London, vol. 20, pt. 4,
p. 284, 1914.

14515. Ulagan Bay, Rita Island, Palawan. December 29, 1908. Length 115 mm.

9148 and 9149. Varedero Bay, Mindoro. July 23, 1908. Length 168 to 171 mm.

17858 and 17859. Bumbum Island, vicinity Darvel Bay, Borneo. September 25, 1909. Length 125 to 130 mm.

7214. Limbe Strait, Celebes. November 9, 1909. Length 131 mm.

12792. Limbe Strait, Celebes. November 10, 1909. Length 110 mm.

21490. Cane Road, Gillolo Island. December 1, 1909. Length 168 mm.

19787. Gommo Island, Pitt Passage. December 3, 1909. Length 115 mm.

1908

Depth 2 1/2 to 3 1/10; head 3 1/5 to 3 1/2.
Snout longer than eye; eye 3 to 4 in head; upper jaw prominent; mouth reaches nearly or quite to eye; curved conic teeth in several rows in jaws, extend outside lips, especially on anterior thickened part; transverse patch of teeth on vomer; few on palatines and patch at base of tongue; postorbital equals interorbital.
Scales 34 to 36 in lateral series; 11 or 12 transversely, 15 or 16 predorsal to occiput. Large scales on opercle, smaller ones on upper part. Scales slightly crenulated on hind border.
D. I, 4 or 5 — I, 12 to 16, spine of first dorsal equals postorbital, longer than second dorsal, much longer than anal which equals eye; A. I, 18 to 24, base slightly longer than space between first dorsal origin and end of second dorsal; anal origin below, somewhat behind or before first dorsal origin;

1909

caudal peduncle longer than high, with age much deeper or higher than long; pectoral curved, longer than head without snout.

Brownish above, lighter to silvery below, longitudinal black band 2 scales wide from eye to caudal base medially dividing colors. Above anal usually more or less distinct second band, parallel to first and sometimes only indicated by black patch or totally absent. Fins dusky, base of second dorsal and anal generally darker. Length 135 mm. (Weber and Beaufort.)

New Guinea, Aru Islands.

1910

Rhombosoma lorentzii (Weber)

Rhombatractus lorentzii Weber, Nova Guinea, vol. 5, pt. 2, p. 236, pl. 11, fig. 2, 1908 (type locality, Tawarin River, north New Guinea); vol. 9, pt. 4, p. 564, 1913 (Vermowai, north New Guinea). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 300, fig. 80, 1922 (Vermowai, Tawarin, Mamberamo Rivers, New Guinea).

Rhombosoma lorentzii Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, p. 284, 1914 (Vermowai River). — Jordan and Hubbs, Stanford Publ., p. 24, 1919 (reference). — Fowler, Mem. Bishop Mus., vol. 10, p. 121, 1928 (compiled).

10534. Pollok, Mindanao. May 22, 1908. Length 120 mm.

11751. Port Banalacan, Marinduque Island. February 23, 1909. Length 130 mm.

12959. Port Jamelo, Luzon. July 13, 1908. Length 122 mm.

10309 and 10332. Port Maricaban, southern Luzon. July 21, 1908. Length 121 to 155 mm.

16521, ~~16522~~, 16522, 16533, 16534, 18350, 18351. Port Natalbi, Luzon. November 22, 1908. Length 115 to 136 mm.

5060 and 5061. Port Natalbi. November 23, 1908. Length 128 to 136 mm.

12654. Port Palapag, east coast Luzon. June 3, 1909. Length 133 mm.

9530, 11579 to 11581, 12113. Port Lucon, west of Pinas Island. December 17, 1908. Length 90 to 136 mm.

Depth 2 1/3 to 3 1/5; head 3 2/5 to 3 9/10. Snout 3 1/10 in head; eye 3 1/2 to 4 1/10, 1 1/5 in snout, equals interorbital; maxillary reaches eye, length 2 3/4 in head; pointed conic teeth in several rows in jaws, extend to lips, which thickened, especially front part; large patch of teeth on vomer, on palatines and tongue base; interorbital low.

Scales 38 in lateral series; 12 or 13 transversely, 18 or 19 predorsal forward to occiput; 3 or 4 rows on cheek. Opercle with large scales, except small ones on hind border. above. Scales nearly smooth or faint crenulations

D. I, 4 — I, 15 to I, 17, first dorsal spine 3 in head, soft dorsal height 2 1/5; A. I, 13 to I, 30, fin height 1 7/8; caudal 1 1/10, slightly emarginate behind; least depth of caudal peduncle 2; pectoral

Symfathers djäring Bleeber

1912

1 2/5, rays I, 14; ventral rays I, 5, fin 1 1/2 in head.

Light brownish above, silvery white below. Sometimes with partly developed dark lateral band, which at least broad as one scale. Fins somewhat dusky. Length 142 mm.

(Weber and Beaufort.)

North New Guinea.

1913

Rhombosoma vanheurni (Weber and Beaufort).

Rhombatractus vanheurni Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 299, 1922 (type locality, Idenburg River; Doorman River, North New Guinea).

Rhombosoma goldiei (not Macleay) Fowler, Mem. Bishop Mus., vol. 10, p. 121, 1928 (part).

white margins, soft portions almost blacks.

8716, 12779, 12730, 15076. Capulaan Bay, Pagbilao, Chicas Island, vicinity Marinduque. February 24, 1909. Length 81 to 144 mm.

11844. Caracaran, Batan Island, east coast Luzon. June 8, 1909. Length 115 mm.

6926, 6928. Catbalogan, Samar. April 16, 1908. Length 125 to 140 mm.

19835. Endeavor Strait, Palawan Island. December 22, 1908. Length 115 mm.

10929, 10930, 12688, 12689, 21534. Endeavor Strait. December 23, 1908. Length 115 to 138 mm.

14102 and 14103. Endeavor Strait. December 24, 1908. Length 132 to 135 mm.

7387. Grigozo Point, Lumapundan Bay, Samar Island. July 28, 1909. Length 122 mm.

9443. Ligpo Point, Balayan Bay, Luzon. January 18, 1908. Length 131 mm.

Depth 2 2/3 to 3 1/5; head 3 2/5 to 3 2/3. Eye 3 2/5 to 4 4/5 in head, 1 1/5 in young to nearly 2 with age in snout, somewhat more than interorbital or equals postorbital; mouth reaches eye in young, not so far with age; upper jaw prominent; pointed conic teeth in several rows in jaws, extend to lips, which swollen, especially front part; elongate patch of teeth on vomer, smaller one on each palatine and tongue;

Scales 38 to 40 in lateral series; 12 or 13 transversely, 15 to 17 predorsal to occiput, 3 or 4 rows on cheeks. Opercle with large scales, upper rows much smaller. Scales with faint crenulations on hind border.

D. I, 4 or I, 5 — I, 18 to I, 21, first spine shorter to equal to suborbital,

1915

much longer than second dorsal spine; D. I, 24 to I, 26, anal spine long as second dorsal spine and equals eye, fin base slightly less than space between first dorsal origin and end of second dorsal; pectoral rays I, 13 or 14, fin equals head without snout; ventral rays I, 5; caudal peduncle height 1 1/5 in its length, 1 1/2 in young.

Yellowish, front of back dark. Black lateral band, widens posteriorly, from snout, through eye to caudal base medially. More or less well developed vertical black band from lateral one to anal base. Often few narrower bands, parallel to vertical one, before or behind. Opercle with bluish black patch below lateral

1916

band. Fins more or less
dusky, often with pinky hue,
probably brighter in life.
Length 160 mm. (Weber and Beaufort.)
North New Guinea.

1917

Rhombosoma praecox (Weber and Beaufort)
Rhombatractus praecox Weber and
Beaufort, Fishes Indo Austral.
Archip., vol. 4, p. 298, 1922 (type
locality, Mamberamo River, North
New Guinea).

Rhombosoma goldiei (not Macleay)
Fowler, Mem. Bishop Mus., vol. 10,
p. 121, 1928 (part).

7488, 17216, 17456. Murciélagos Bay, Mindanao. August 9, 1909. Length 130 to 154 mm.

5794. Nabatas Point, Samar Island. July 24, 1909. Length 109 mm.

15246, 15248, 15249, 15250. Near Palaj Bay, Luzon. June 16, 1909. Length 102 to 121 mm.

19027. North west Verde Island. July 22, 1908. Length 127 mm.

9190, 20565, 20639, 20640. Opol, Mindanao Island. August 4, 1909. Length 101 to 155 mm.

8 examples. Oyster Inlet, Ulugan Bay, Palawan Island. December 28, 1908. Length 61 to 139 mm.

13115. Paron Point, Albay Gulf, Luzon. June 21, 1909. Length 120 mm.

21604. Pasacao, Ragay Gulf, Luzon. March 9, 1909. Length 133 mm.

1916

Depth 2 1/10 to 2 9/10; head 3 2/5 to 3 4/5. Eye 2 2/3 to 3 1/5 in head, subequal or more than snout, 1 1/5 to 1 1/3 in postorbital, which subequal with interorbital; mouth not quite reaching eye; lips not thickened, except somewhat at symphysis of jaws; very small teeth in several rows in jaws, extend on outside of lips, on vomer and palatines?; tongue smooth.

Scales 30 or 32 in lateral series; 14 to 16 predorsal forward to occiput, 11 or 12 transversely, 1 row on cheeks. Opercle with large scales, except small upper ones. Scales smooth or with faint crenulations at hind edges.

D. I, 3 to I, 5 — I, 10 to I, 14, first spine equals or slightly longer than postorbital, longer than second dorsal spine, which longer than anal spine; A. I, 17 to I, 21,

origin opposite first dorsal origin, base longer than space between first dorsal origin and end of second dorsal; caudal peduncle longer than high, with age high as long; pectoral somewhat shorter than head without snout, rays 11 to 13; ventral rays $\frac{I}{=}, 5$.

Brownish, darker above. Faint narrow blackish longitudinal band sometimes present. Fins dusky. Sometimes second dorsal and anal with red marginal band and ventrals also tinged with red. Length 61 mm.

(Weber and Beaufort.)

North New Guinea.

1920

Genus Melanotaenia Gill

Melanotaenia Gill, Proc. Acad. Nat. Sci. Phila., 1862 (1863), p. 280. (Type Atherina nigricans Richardson, orthotypic.)

Hematocentris Peters, Monatsber. Akad. Wiss. Berlin, 1866 (1867), p. 516. (Type Hematocentris splendida Peters,

Strabo Kner and Steindachner, Sitzb. Ber. Akad. Wiss. Wien, math.-naturw. Kl., vol. 44, 1866 (October 4, 1867), p. 372. (Type Strabo nigrofasciatus Kner and Steindachner, monotypic.)

Zanteela Castelnau, Proc. Zool. Acclimat. Soc. Victoria, vol. 2, p. 88, May 10, 1873. (Type Zanteela pusilla Castelnau, monotypic.)

Aida Castelnau, (Res. Fish. Austral.) Vict. Offic. Rec. Philadelphia Exhib., p. 10, 1875. (Type Aida inornata Castelnau, monotypic.)

Neoatherina Castelnau, (Res. Fish. Austral.) Vict. Offic. Rec. Philadelphia Exhib., p. 31, 1875. (Type Neoatherina australis Castelnau, monotypic.)

Aristeus (not Duvernoy 1840) Castelnau, Proc. Linn. Soc. New South Wales, vol. 3, December 1878, p. 141. (Type Aristeus fitzroyensis Castelnau, designated by Jordan, Genera of Fishes, pt. 3, p. 393, 1919.)

1922

Rhombatractus Gill, American Nat., 1894, p. 709. (Type Aristeus Litzroyensis Castelnau, virtually, as Rhombatractus Gill proposed to replace Aristeus Castelnau.)
Anisocentrus Regan, Trans. Zool. Soc. London, vol. 20, p. 281, 1914. (Type Hematocentrus rubrostriatus Kumpf and Ogilby, monotypic.)

Body greatly compressed, oblong ovate, deeper with age. Eye large, advanced. Mouth moderate, not reaching eye. Jaws equal or lower included. Premaxillaries with abrupt bend between horizontal and lateral part. Lips thin. Teeth pointed, one or more rows in jaws; present or not on vomer, palatines and tongue. Gill rakers 12 to 16 below. Branchiostegals 5 or 6. Scales smooth or with shallow crenulations on hind

7896. Luzon Point, Manila Bay.
January 21, 1909. Length 535 mm.

8900. Near Palag Bay, Luzon.
June 16, 1909. Length 625 mm.

8180. Port Busin, Burias Island.
March 8, 1909. Length 270 mm.

6389 and 9020. Port Jamelo, Luzon.
July 13, 1908. Length 205 to 290 mm.

8535. Port Langcan, Dumaran
Island, vicinity eastern Palawan.
April 8, 1909. Length 441 mm.

8777. Dinalasag Island, Masamat
Bay, east coast Luzon. June 12, 1909.
Length 343 mm.

5717. Surigao, east coast Mindanao.
May 8, 1908. Length 285 mm.

7852. Jaganak Island, Jolo Sea.
January 7, 1909. Length 385 mm.

7342 and 12494 [773]. Jara Island,
Mindoro Strait. December 14, 1908. Length 211 to 277 mm.

border; 30 to 36 in lateral series. Lateral line about on a row of scales as each with shallow pit. First dorsal with 4 spine and 3 to 6 flexible undivided rays, which may be prolonged filaments. Second dorsal with more or less curved spine and 9 to 12 soft rays, hind ones may be elongated, also those of anal. Anal with weak spine and 17 to 22 soft rays, origin below or somewhat behind first dorsal origin. Caudal forked. Pectoral with simple ray and 11 to 14 branched rays. Ventral with slender spine and 5 soft rays, begins somewhat behind pectorals.

7475. Bolalo Bay, Palawan Island. December 21, 1908. Length 250 mm.

8318. Destacado Island. March 13, 1909. Length 295 mm.

8081. Burias Island. March 5, 1909. Length 360 mm.

7515, 7553, 7578. Endeavor Strait, Palawan Island. December 22-24, 1908. Length 385 to 433 mm.

17300. Gigozo Point, Lucinapundan Bay, Samar. July 28, 1909. Length 218 mm.

8765 and 8766. Lahey Island, Pocket Bay, east coast Luzon. June 11, 1909. Length 250 to 268 mm.

18550. Langao Point, southern Luzon. June 24, 1909. Length 235 mm.

1924

Fresh waters of New Guinea,
Low Islands and Australia.

Several of our specimens (7362, 8688 and 8700) are varietal. They have the pectorals with a distinct light colored margin and the broader interorbital more flattened.

18659. Alimango Bay, Burias Island. March 5, 1909. Length 237 mm.

8062. Donabuyas Islands. March 2, 1909. Length 402 mm.

8719. Atulayan Island. June 18, 1909. Length 410 mm.

7786. Balabac. January 4, 1909. Length 351 mm.

8688. Batag Island, east coast Luzon. June 3, 1909. Length 600 mm.

17067. Biscay Island. April 9, 1909. Length 250 mm.

1925

Analysis of Species

a.' Melanotaenia. Jaws equal, no teeth outside mouth.

b.' Predorsal scales 24 to 34; lateral scales 37 to 40. multisquamata.

b.² Predorsal scales less than 24; lateral scales 33 to 37. nigrans.

a.² Anisocentrus. Lower jaw included; lower teeth with band of small teeth separated by interspace from outer series or double series of enlarged teeth, which implanted horizontally. rubrostriata.

1926

Melanotaenia multisquamata Weber and Beaufort

Melanotaenia multisquamata Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 290, 1922 (type locality, Idenburg River, North New Guinea).

Melanotaenia nigrans (not Richardson) Fowler, Mem. Bishop Mus., vol. 10, p. 121, 1928 (part).

depth 3 1/5 to 3 3/3; head 2 7/8 to 3 1/8, width 2 1/3 to 2 2/5. Snout 3 to 3 2/5 in head from snout tip; eye 5 4/5 to 8 2/5, 1 3/4 to 3 in snout, 1 to 1 1/2 in interorbital; maxillary reaches 1/5 to 3/4 in eye, expansion 1 to 1 2/5, length 2 1/10 to 2 1/8 in head from snout tip; teeth above in narrow band, pair of canines in front of each jaw and 3 canines in each mandibular ramus; narrow band of fine teeth on vomer and one on each palatine; hind nostril greatly larger than front one, half size of pupil; interorbital 4 3/4 to 5 1/4 in head from snout tip; preopercle edge entire; median opercular spine closer to lower which opposite upper. Gill rakers 5 + 12, lanceolate, little longer

Depth 2 1/2 to 2 4/5; head 3 1/5 to 3 2/3. Snout longer than eye; eye 3 1/5 to 3 2/3 in head, less than interorbital, 1 2/5 to 1 3/5 in postorbital; mouth reaches 1/2 in snout, with very slight downward curve medially as seen in front; jaws equal; row of strong conic teeth above, followed by smaller ones inside, especially well developed near symphysis; lower teeth similar, small; transverse patch of small teeth on vomer; small teeth on palatines and base of tongue.

Scales 37 to 40 in lateral series; 13 or 14 transversely, 24 to 31 predorsal forward to occiput, 2 rows on cheeks. Scales conspicuous, crenulated on hind edges.

D. $\underline{\underline{I}}$, 4 — $\underline{\underline{I}}$, 9 or $\underline{\underline{I}}$, 10, first

spine strong, longer than postorbital, shorter than second dorsal spine, which stronger and more curved; A. I, 19 to I, 21, rather strong, curved spine shorter than postorbital, equals opercle in length, fin base longer than space between first dorsal origin and end of second dorsal; first dorsal origin somewhat behind anal origin; second dorsal and especially anal very high, longest anal rays equal head, often much longer and all equal body depth; caudal forked; caudal peduncle 1½ times long as high; pectoral not long as head, longer than head without snout, rays I, 13 or I, 14; ventral long as head without snout, rays I, 5.

1929

Pinkish, some rows of scales on sides with more or less conspicuous dark pigmentation. First dorsal dusky. Terminal parts of second dorsal, anal and ventral dusky or blackish. Caudal and pectoral hyaline. Length 140 mm. (Weber and Beaufort)

New Guinea.

1930

Melanotaenia nigrans (Richardson)

Atherina nigrans Richardson, Ann. Mag. Nat. Hist., vol. 2, p. 180, March 1843 (type locality, King's River, Victoria; near Port Essington, Northern Territory, fresh water streams).

Atherinichthys nigrans Günther, Cat. Fish. Brit. Mus., vol. 3, p. 406, 1861 (type; Port Essington, Severn River and Australia);: Ann. Mag. Nat. Hist., ser. 4, vol. 17, p. 396, 1876 ;; Rep. Voy. Challenger, vol. 1, pt. 6, p. 33, 1880 (Queensland S. 27°9' E. 144°0'; Mary River, Tiaro).

l. ~~Ethelberca~~ uniform dusky to blackish; inside mouth orange; tip of dorsal and hind caudal edge whitish; caudal truncate. rogaa

l. ~~Ethelberca~~ Largely uniformly dusky brown; 4 obcure blotch longitudinal lines on head; pectoral variably and broad border of soft dorsal whitish; caudal emarginate.

albomarginatus

Hematocentris nigricans Steindachner, Sitzg. Ber. Akad. Wiss. Wien, math. naturw. Kl., vol. 56, pt. 1, p. 316, 1867 (Cape York, Australia).

Hematocentris nigra Günther, Ann. Mag. Nat. Hist., ser. 3, vol. 20, p. 65, 1867 (Rockhampton, Brisbane, Port Dennison, Cape York).

Hematocentris nigrans Macleay, Proc. Linn. Soc. New South Wales, vol. 5, pt. 2, p. 44, 1881 (Port Essington, Severn River, Fitzroy, Clarence and Brisbane Rivers).

f.[2] Red, dotted all over with blue.
cyanostigma

i.[2] Anal rays 7.

k.[1] Dark brown or black anteriorly, paler posteriorly; small rounded blue black-ringed spots everywhere; spinous dorsal edged yellow and soft fins with light edge. argus

k.[2] Red, dotted nearly all over with blue and sometimes blue lines on head; 4 large black blotches on back at dorsal bases and 2 more behind dorsal. sexmaculatus

k.[3] Body usually with many blue longitudinal lines; spinous dorsal membranes edged black. bimaculatus

Bethalopercæ.

a.[3] 1 caudal truncate or emarginate; anal rays 9; coloration dark.

1932

Melanotaenia nigrans Ogilby, Proc. Linn. Soc. New South Wales, vol. 21, p. 134, 1896 (note).
— Regan, ~~Proc.~~ Trans. Zool. Soc. London, vol. 20, pt. 6, p. 279, 1914 (New Guinea). — Rendahl, Medd. Zool. Haus. Kristiana, Nr. 5-6, p. 177, 1922 (Port Darwin; Daly River; South Alligator River; McKinley River).
— Fowler, Mem. Bishop Mus., vol. 10, p. 121, 1928 (compiled). — McCulloch, Mem. Austral. Mus., vol. 5, pt. 1, p. 112, June 29, 1929 (South Australia, Central Australia, New South Wales, Queensland, North Australia, Western Australia).
— Fowler, Mem. Bishop Mus., vol. 11, no. 5, p. 324, 1931 (Papua).

c². Caudal with dark oblique band above and another below.

g.' Red or red brown, uniform or with vermilion or bluish white dots; pectoral and vertical fins usually dark. wrodelus

g.² Yellowish or olive, spotted with red; variable dark postocular band; 1 or 2 black spots on tail behind dorsal. leopardus

b.² Cephalopholis. Body with 6 to 8 dark transverse bands; body usually with blue or whitish spots.

h.' Body without longitudinal blue lines.

i.' Anal rays 8.

j.' Variably uniform brown; with or without blue dots on head and body anteriorly; fins dark, dorsal and anal edged yellow. pachycentrum

1933

Hematocentris splendida Peters, Monatsb. Akad. Wiss. Berlin, 1866 (1867), p. 516 (type locality, Fitzroy River, Rockhampton, Queensland).

Melanotaenia splendida Ogilby, Proc. Linn. Soc. New South Wales, vol. 21, 1896, p. 134 (reference).

Strabo nigrofasciatus Kner and Steindachner, Sitzs. Ber. Akad. Wiss. Wien, Math.-naturw. Kl., vol. 44, October 4, 1867, pp. 372, 395, pl. 3, fig. 10 (type locality, Fitzroy River, Rockhampton, Queensland); vol. 45, pt. 1, 1867, p. 16.

Analysis of the species.

a.' Caudal rounded

b.' Enneacentrus. Body without transverse dark bands; usually with blue or white spots.

c.' Caudal without dark oblique band above and below.

d.' No network of blue on head.

e.' Fins uniformly pale or light in color.

f.' Orange or pink, with or without blue dots on front part of back; vertical fins sometimes with dark edges: aurantius

f.² Red or pink, with large blue dark edged spots, few or absent on paired fins. miniatus

e.² Pectoral black, broadly edged yellow; soft vertical fins black, dotted blue, edges narrowly white. hemitictus

d.² Red or reddish, with variable bluish net work on head; variably small whitish or bluish spots on body and fins. connexatus

Melanotaenia nigrofasciata Ogilby, Proc. Linn. Soc. New South Wales, vol. 21, 1896, p. 135 (reference).

Zanteela pusilla Castelnau, Proc. Zool. Acclimat. Soc. Victoria, vol. 2, May 10, 1873, p. 88 (type locality, Port Darwin, Northern Territory).

Hemiatocentris pusillus Macleay, Proc. Linn. Soc. New South Wales, vol. 5, pt. 2, 1881 (1882), p. 44 (copied).

Melanotaenia pusilla Ogilby, Proc. Linn. Soc. New South Wales, vol. 21, 1896, p. 135 (reference).

lunate. Pectoral rounded, symmetrical, median rays longest.

Small brilliant groupers, rather abundant in tropical seas. They differ from Serranus chiefly in the presence of 9 spines, instead of 11.

1935

Aida inornata Castelnau, (Rec. Fish. Austral.), Voit. Offic. Rec. Philadelphia Exhib., p. 10, 1875 (type & locality, Gulf of Carpenteria).

— Macleay, Proc. Linn. Soc. New South Wales, vol. 5, 1880 (1881), p. 349 (compiled).

— Ogilby, Proc. Linn. Soc. New South Wales, vol. 21, 1896, p. 134 (reference).

— Weber, Zool. Forschungsr. Austral. Lemon, vol. 5, p. , 1895 (Burnett River).

Valenciennes as the type of Uriphaeton Swainson, in Verh. Kon. Akad. Amsterdam, vol. 14, ser. 2, 1874, p. 3.

Enneistius Jordan and Evermann, Bull. U. S. Nat. Mus., no. 47, pt. 1, 1896, p. 1143. Type Bodianus acanthistius Gilbert, monotypic.

Ethaloperca Fowler, Journ. Acad. Nat. Sci. Phila., vol. 12, ser. 2, 1904, p. 522. Type Perca rogaa Forskål, orthotypic.

Body moderate, oblong. Maxillary with distinct supplemental bone. Inner jaw teeth depressible, hinged; canines more or less distinct in front of jaws. Scales small, mostly ctenoid. Top of head and soft dorsal scaly. Dorsal spines 9, soft rays moderate, 13 to 15. Anal spines 3, well developed, rays 7 or 8. Caudal rounded to

1936

Neoatherina australis Castelnau,
(Res. Fish. Austral.), Vict. Offic. Rec.
Philadelphia Exhib., p. 32, 1875
(type locality, off Swan River,
Western Australia). — Macleay,
Proc. Linn. Soc. New South Wales,
vol. 5, pt. 2, 1881 (1882), p. 46
(copied). — Ogilby, Proc. Linn. Soc.
New South Wales, vol. 21, 1896, p.
133 (reference). — Zietz,
Proc. Roy. Soc. South Australia,
vol. 33, 1909, p. 264.

Genus Cephalopholis Schneider

Cephalopholis Schneider, Syst. Ichth. Bloch, 1801, p. 311. Type Cephalopholis argus Schneider, monotypic.

Eriphaeton Swainson, Nat. Hist. Animals, vol. 2, 1839, pp. 168, 202. Type Eriphaeton microlepis Swainson, monotypic.

Enneacentrus Gill, Proc. Acad. Nat. Sci. Phila., 1865, p. 105. Type Serranus cutalibi Valenciennes, orthotypic.

Petrometopon Gill, Proc. Acad. Nat. Sci. Phila., 1865, p. 105. Type Serranus guttatus Poey, orthotypic.

Menephorus Poey, Ann. Lyc. Nat. Hist. New York, vol. 10, 1874, p. 50. Type Serranus dubius Poey, orthotypic.

Phaetonichthys Bleeker, Verh. Kon. Akad. Wet. Amsterdam, vol. 14, ser. 2, 1874, p. 3 (name in synonymy). Type Serranus phaeton Valenciennes. Bleeker gives Serranus phaeton

1937

Aristeus fitzroyensis Castelnau,
Proc. Linn. Soc. New South Wales,
vol. 3, December 1878, p. 141 (type locality,
~~Rockhampton~~ Fitzroy River, Rockhampton).
— Macleay, Proc. Linn. Soc. New
South Wales, vol. 5, 1881, p. 625.
(reference).
Rhombatractus fitzroyensis Ogilby,
Proc. Linn. Soc. New South Wales,
vol. 21, 1896, p. 125 (reference).
— Cockerell, Mem. Queensland Mus.,
vol. 3, 1915, p. 38 (Brisbane; scales).
— Ogilby, Mem. Queensland Mus.,
vol. 6, 1918, p. (Upper Noosa
River

Rhombatractus fitzroyensis

A 1556 and A 1558. Kwa Hiang Bay, Formosa. January 25, 1910. Length 303 to 463 mm.

1938

Aristeus fluviatilis Castelnau, Proc. Linn. Soc. New South Wales, vol. 3, December 1878, p. 141 (type locality, Ropes Creek near Sydney; Murrumbidgee River, New South Wales). — Macleay, Proc. Linn. Soc. New South Wales, vol. 5, 1881, p. 625 (reference).

Rhombatractus fluviatilis Ogilby, Proc. Linn. Soc. New South Wales, vol. 21, 1896, p. 133 (reference).

Atherinichthys duboulayi Castelnau, Proc. Linn. Soc. New South Wales, vol. 3, December 1878, p. 143 (type locality, fresh-water lagoon connected with Richmond River). — Macleay, Proc. Linn. Soc. New South Wales, vol. 5, pt. 2, 1881, p. 41 (reference).

(42, A 845 and A 846) from the East Indian region of this variety. They have the dark band from the eye and along the back, also a dark blotch at the base of the upper caudal lobe.

A 1527. Doc Can Island, Sulu Sea. January 7, 1910. Length 45 mm.
Stomach contained Holacanthus melanosoma 80 mm. long and small serranid.

8874. Near Palay Bay, Luzon. June 16, 1909. Length 300 mm.

9077. Malhon Island, vicinity of Surigao Strait, between Samar and Leyte. July 27, 1909. Length 355 mm.

4733. Maricaban Island, Luzon. January 18, 1908. Length 280 mm. Marked with white flakes.

19024. North West Verde Island. July 26, 1908. Length 140 mm.

A 588. Jara Island, San Juan Point, between Jolo and Tawi Tawi. September 20, 1909. Length 410 mm.

22499. Opol, Mindanao Island. August 4, 1909. Length 163 mm. [755.]

22428. Rmbln. Hired 25, 1908. Length 66 mm.

1939

Chiroxtoma duboulayi Waite, Mem. New South Wales Nat. Club, vol. 2, p. 21, 1904 (New South Wales).

Aristeus rufescens Macleay, Proc. Linn. Soc. New South Wales, vol. 5, pt. 4, 1881, p. 625 (type locality, Rivers of North Queensland [=Cairns]).

Rhombatractus rufescens Ogilby, Proc. Linn. Soc. New South Wales, ser. 2, vol. 1, 1886, p. 133 (Cairns).

Aristeus lineatus Macleay, Proc. Linn. Soc. New South Wales, vol. 5, pt. 4, 1881, p. 626 (type locality, Richmond River, New South Wales).

Rhombatractus lineatus Ogilby, Proc. Linn. Soc. New South Wales, ser. 2, vol. 1, 1886, p. 133 (reference).

42. Tubahatan Island, east of Zamboanga. September 9, 1909. Length 250 mm. (var. flavimarginatus). 5930 and 6006. Zamboanga market. May 25 and 27, 1908. Length 335 to 352 mm. [110.]

A 711 and A 712. Si Amil Island, vicinity of Darvel Bay, Borneo. September 27, 1909. Length 418 to 451 mm.

A 1318 and A 1319. Tifu Bay, Bouro Island. December 10, 1909. Length 315 to 443 mm.

A 1467 and A 1496. Libani Bay, Celebes. December 29, 1909. Length 240 to 332 mm.

A 845 and A 846. Talisse Island, north of Celebes. November 9, 1909. Length 264 to 353 mm. (var. flavimarginatus).

A 1172. Game Road, Gillolo Island. December 1, 1909. Length 323 mm.

1940

Aristeus cavifrons Macleay, Proc. Linn. Soc. New South Wales, vol. 7, May 23, 1882, p. 70 (type locality, Palmers River, North Queensland).

Rhombatractus cavifrons Ogilby, Proc. Linn. Soc. New South Wales, ~~vol. 7~~ ser. 2, vol. 1, 1886, p. 133 (reference).

Aristeus perporosus De Vis, Proc. Linn. Soc. New South Wales, vol. 9, pt. 3, November 29, 1884, p. 694 (type locality, Maryborough, Australia).

Rhombatractus perporosus Ogilby, Proc. Linn. Soc. New South Wales, ser. 2, vol. 1, 1886, p. 134 (reference).

Aristeus loriae Perugia, Ann. Mus. Civ. Genova, vol. 34, 1894, p. 594 (type locality, Imawi, British New Guinea).

mm. though we have none so large.

5684. Cagop Point, Catanduanes Island, east coast of Luzon. June 10, 1909. Length 167 mm.

8135 and 8136. Dilibjaban Bay, Ragay Gulf, Luzon. March 6, 1909. Length 302 to 307 mm.

9196 and 9197. Camiguin Island, between Leyte and Mindanao. August 3, 1909. Length 258 to 298 mm.

22257. Camino Island, near Dart, east coast Luzon. June 15, 1909. Length 97 mm.

9260. Sramucan Bay, Mindanao. August 8, 1909. Length 302 mm.

6039 and 6044. Little Santa Cruz Island. May 28, 1908. Length 247 to 375 mm. [100.]

7234. Masinloc Bay, Zambales, -off west Luzon. November 22, 1908. Length 222 mm.

1941

Rhombatractus loriae Ogilby, Proc. Linn. Soc. New South Wales, ser. 2, vol. 1, 1886, p. 134 (reference).

Melanotaenia loriae Weber and Beaufort, Fishes Indo-Austral. Archip., vol. 4, p. 294, 1922 (compiled).

Hematocentrus tatei Zietz, Rep. Horn Sci. Exped. Central Austral., vol. 2, p. 178, pl. 16, fig. 2, February 1896 (type locality, Horseshoe Bend, Finke River, South Australia).

Rhombatractus tatei Ogilby, Proc. Linn. Soc. New South Wales, vol. 21, 1896, p. 134 (reference). — Zietz, Proc. Roy. Soc. South Australia, vol. 33, 1909, p. 264.

Red Sea, Zanzibar, Mozambique, Seychelles, Mauritius, Reunion, Madagascar, Persian Gulf, Maldives, India, Ceylon, Andamans, East Indies, Philippines, China, North Australia, Queensland, Melanesia, Polynesia, Hawaii.

Abundant and reaches 430 mm. in length. Cephalopholis kendalli is evidently only a color variety of this species. Schneider's figure of C. argus is crude and shows quite large spots, though not indicated on the head. Our examples show but faint traces of the dark vertical bars on the trunk, though in similar arrangement with Schneider's figure. This also shows no pale edges to the rayed vertical fins and the pectoral. Boulenger gives the maximum size at 430

1942

Hematocentrix winneckei Zietz, Rep. Horn. Sci. Exped. Central Australia, vol. 2, p. 179, pl. 16, fig. 3, February 1896 (type locality, near Horseshoe Bend, Finke River, South Australia).

Rhombatractus winnecki Ogilby, Proc. Linn. Soc. New South Wales, ser. 2, vol. 1, 1886, p. 134 (reference).— Ziety, Proc. Roy. Soc. South Australia, vol. 33, 1909, p. 264.

→ Rhombatractus maccullochi Ogilby, Proc. Linn. Soc. New South Wales, ser. 2, vol. 3, p. 1148, pl. 29, fig. 1, 1915 (type locality, Barron River, near Cairns)

D. IX, 16, I, fourth spine 2 7/8 to 4 1/4 in total head length, twelfth ray 2 1/2 to 2 5/6; D. III, 9, I, second spine 2 1/3 to 4 1/2, fifth ray 2 1/8 to 2 2/5; caudal 1 2/3 to 1 7/8, rounded; least depth of caudal peduncle 2 7/8 to 3 1/3; pectoral 1 1/2 to 1 3/4; ventral 1 7/8 to 2 1/4.

Deep dusky or blackish brown, more or less uniform and fins all blackish. Body with 9 or 10 obscurely defined darker vertical bands. Body and fins everywhere dotted with grayish dusky edged ocelli, more or less uniform in size. Iris blackish. Tip of each membrane of spinous dorsal yellowish with age. Edges of rayed vertical fins and pectorals narrowly pale brown.

1943

~~Melanotaenia patoti Weber~~

Rhombatractus patoti Weber, Zool. Anzeiger, vol. 32, 1907, p. 403 (type locality, Serangan); Abhandl. Senckenberg. Nat. Gesell., vol. 34, 1911, p. 26, pl. 1, fig. 3 (type).

Melanotaenia patoti Weber and Beaufort, Fish. Indo-Austral. Archip., vol. 4, p. 291, fig. 77, 1922 (Aru Islands).

~~Melanotaenia nigrans (not Richardson)~~
~~Regan, Trans. Zool. Soc. London, Zool.~~
~~2d, pt 6, 1914, p. 279 (part)~~

Bodianus jacob-evertsen (part) Lacépède, Hist. Nat. Poiss., vol. 4, 1802, p. 296.
Xenrannus luti (non Forskål) Cuvier, Hist. Nat. Poiss., vol. 2, 1828, p. 363.
Xenrannus myriaster Cuvier, Hist. Nat. Poiss., vol. 2, 1828, p. 365. Borabora, Society Islands and Hawaiian Islands.
— Rüppell, Atlas Reise nördl. Afr. Fische, 1828, p. 107, pl. 27, fig. 1 (Red Sea). — Lesson, Voyage Coquille, Zool., vol. 2, pt. 1, 1830, p. 234, pl. 37 (Borabora). — Quoy and Gaimard, Voyage Astrolabe, Zool., vol. 3, 1834, p. 653, pl. 3, fig. 1 (New Guinea). — Rüppell, Neue Wirbelth., Fische, 1835, p. 102 (reference only). — Richardson, Ichth. China Japan, 1845, p. 233 (China). — Guichenot, Poiss. Ile Réunion, vol. 2, 1862, p. 23.
Cromileptes myriaster Swainson, Nat. Hist. Animals, vol. 2, 1839, p. 201 (on Rüppell pl. 27, fig. 1).

1944

Melanotaenia maculata Weber

Melanotaenia maculata Weber, Nova Guinea, vol. 5, pt. 2, p. 239, pl. 11, fig. 4, 1908 (type locality, mouth of Meraukе River, southern New Guinea, in brackish water); vol. 9, livr. 4, p. 557, 1913 (Merauke). — Weber and Beaufort, Fishes Indo-Austral. Archip., vol. 4, p. 292, 1922 (Meraukе River). — Duncker and Mohr, Mitteil. Naturh. Mus. Hamburg, vol. 42, p. 136, 1926 (Kaiserin Augusta River).

third spine 3 3/5 to 3 7/8 in total head length, first branched ray 1 2/3 to 2 1/3; A. III, I, 7, I, third spine 3 1/2 to 4 3/5, second branched ray 1 7/8 to 2 2/5; caudal 1 2/5 to 1 1/2, emarginate behind; least depth of caudal peduncle 2 2/3 to 2 4/5; pectoral 2 to 2 1/3; ventral 2 1/5 to 2 1/4.

Brown above, paler below. Head, back anteriorly, also soft dorsal and anal fins, with dark brown longitudinal lines. Dark brown vertical parallel lines all along flanks and rest of body and caudal spotted finely with dark brown. Pectoral dark brown with blue lines, hind border yellowish. Ventral brown, paler basally.

East Indies, Philippines, Micronesia. A well marked species allied

1945

~~Melanotaenia ogilbyi Weber~~

Melanotaenia ogilbyi Weber, Notes Leyden Mus., vol. 32, pt. 4, 1911, p. 230 (type locality, Tümpel; Pandanas morass at Yabang, southern Dutch New Guinea); Nova Guinea, vol. 9, pt. 4, p. 560, fig. 28, 1913 (types). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. ~~[illegible]~~ 4, p. 293, fig. 78, 1922 (types). — Duncker and Mohr, Mitteil. Naturh. Mus. Hamburg, vol. 42, p. 136, 1926 (Kaiserin Augusta River).

Depth 2 5/6 to 3 1/5; head 2 1/3 to 2 3/5, width 2 1/4 to 2 1/2. Snout 3 1/2 to 4 1/3 in head from snout tip; eye 5 to 8 1/3, 1/10 to 2 in snout, greater than interorbital to 1/4 with age; maxillary reaches little beyond eye or 1/3 eye diameters with age, expansion 1/4 in eye to greater than eye diameter with age, length 1 7/8 to 2 in head from snout tip; broad bands of fine teeth in jaws, inner upper and lower enlarged and depressible; 6 rows of teeth in front of mandible, narrowing posteriorly; pair of front canines in each jaw; bands of small teeth on vomer and palatines; interorbital 6 1/5 to 8, but slightly convex; preopercle edge nearly entire or serrae obsolete; opercular spines 3, median most posterior and little nearer upper

1946

Melanotaenia negleeta Rendahl,
Medd. Zool. Mus. Kristiania, Nos. 5-
6, September 8, 1922, p. 179 (181)
(type locality, Cudgegong River at
Rylestone, New South Wales;
Columbo Creek near Narrandera).
— Whitley, Austral. Zool., vol. 5,
pt. 4, p. 356, March 24, 1929
(reference).

than lower. Gill rakers 9 to 11 + 17, lanceolate, little less than gill filaments or ½ of eye; 8 to 10 upper and 10 lower rudimentary.

Scales 93 to 103 in lateral line to caudal base and 10 to 12 more on latter; tubes 40 to 50 in lateral line to caudal base and 4 to 6 more on latter; 12 to 16 scales above, 22 to 32 below; 34 to 36 rows across cheek; scales rather smooth on head and body scales with many small auxiliary basal scales; fins all more or less finely scaled basally; maxillary expansion finely scaled, less so in young. Scales with 6 or 7 basal radiating striae; apical denticles 35 to 54 with 5 or 6 transverse series; circuli fine.

1947

Depth $2\frac{1}{2}$ to $3\frac{1}{2}$; head $3\frac{3}{5}$ to $4\frac{1}{3}$. Snout 3 to $3\frac{1}{2}$ in head; eye 3 to $3\frac{1}{2}$, equals snout; interorbital $2\frac{1}{3}$ to $2\frac{2}{3}$ in head. Lower gill rakers 12 to 16.

Scales 33 to 37 in lateral series; 11 to 13 transverse, 1 or 2 rows on cheek.

D. IV to VII — I, 9 to 13, origin of first dorsal above or before anal origin; A. I, 16 to 22; caudal peduncle long as deep.

Olivaceous above, silvery below. Blackish lateral band sometimes present, sometimes only posterior, when absent bluish lateral stripe evident. Sometimes silvery white stripes along and dark red or brown ones between series of scales. Fins plain or spotted. Length 100 mm.

(Regan.)

Southern New Guinea, Aru Islands.

1948

Melanotaenia rubrostriata (Ramsay and Ogilby)

Hematocentris rubrostriatus Ramsay and Ogilby, Proc. Linn. Soc. New South Wales, ser. 2, vol. 1, 1886 (1887), p. 14 (type locality, Strickland River, New Guinea). — Regan, Proc. Zool. Soc. London, 1914, p. 339.

Rhombatractus rubrostriatus Ogilby, Proc. Linn. Soc. New South Wales, vol. 21, 1896, p. 134 (reference). — Jordan and Veale, Bull. Bur. Fisher., vol. 25, p. 216, 1905 (1906). (reference).

circuli moderate.

D. VIII, I, 9, I, or I, 10, I, third spine 3 1/3 to 3 2/3 in total head length, first branched ray 2 1/6 to 2 3/8; A. III, I, 7, I, third spine 3 4/5 to 5 1/3, first branched ray 2 1/4 to 2 2/3; caudal 1 1/4 to 1 3/5, emarginate behind; least depth of caudal peduncle 2 1/2 to 3 1/8; pectoral 1 4/5 to 2 1/4; ventral 1 7/8 to 2 1/3.

Brown, nearly uniform and variously light or dark. Body and fins everywhere with numerous, fine, slightly darker spots, often fading in preservation. Though pectoral usually unspotted sometimes with small blue spots. Ventral usually darker brown.

Red Sea, Ceylon, East Indies, Philippines, Japan, Melanesia.

1949

Anisocentrus rubrostriata Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, pp. 276, 281, pl. 31, fig. 3, 1914 (Vetakwa and Lorentz Rivers, New Guinea). — Jordan and Hubbs, Stanford Publ., p. 22, 1919 (reference). — Fowler, Mem. Bishop Mus., vol. 10, p. 121, 1928 (compiled).

Melanotaenia rubrostriata Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 295, 1922 (compiled).

Genus Variola Swainson.

Variola Swainson, Lardner's Cabinet Cycloped. (Nat. Hist. Animals), Fishes, vol. 2, 1839, p. 202. Type Variola longipinna Swainson, monotypic.

Loüti Forskål, Descript. Animal., 1775, p. 44. Type Perca loüti Forskål, by ~~tautonymy~~ vernacular tautonym. (Inadmissible.)

→91

Body oblong, compressed. Eyes lateral, moderate. One or 2 curved canines each side of mandible, besides pair in front of each jaw. Teeth in jaws villiform, on vomer and palatines and inner row in both jaws depressible. Preopercle with hind edge weakly serrated, lower edge entire. Opercle with 3 spines. Scales small, ctenoid, none on snout, suborbitals or maxillary. Dorsal spines 9, rays 14, soft dorsal ending in long point. → Anal spines

Pseudovariola Klunzinger, Verh. Zool. bot. Gesell. Wien, p. 687, 1871. Type Perca loüti Forskål. Monotypic.

~~Melanotaenia duboisi Weber~~ 1950

Melanotaenia dumasi Weber, Nova Guinea, vol. 5, livr. 2, p. 240, pl. 11, fig. 1, 1908 (type locality, Wa Ledu River and Wagani River, southern New Guinea); vol. 9, livr. 4, p. 558, 1913 (Lorentz River, Regen Island, Riverkamp, Vabang, Alkmaar, Buiak River). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 290, 1922 (Wa Ledu, Wagani, Lake Jamur, Lorentz River, Setakwa River in southern New Guinea).

7697. Ulugan Bay, Palawan Island. December 29, 1908. Length 350 mm.

A 680. Bumbum Island, vicinity of Darvel Bay, Borneo. September 25, 1909. Length 358 mm.

A 704 and A 705. Danawan Island, vicinity Sibuko Bay, Borneo. September 27, 1909. Length 448 to 475 mm.

A 765. Mabul Island, vicinity Sibuko Bay, Borneo. September 29, 1909. Length 550 mm.

A 995. Buka Buka Island, Gulf of Tomini, Celebes. November 20, 1909. Length 335 mm.

13386 and 13387. Labuandata Bay, Gulf of Boni, Celebes. December 18, 1909. Length 210 to 230 mm.

A 1129 and A 1131. Kayoa Island. November 29, 1909. Length 393 to 580 mm.

1957

Depth 2 1/2 to 3; head 3 2/3 to 4 1/3. Snout 3 1/4 to 3 3/4 in head; eye 3 1/4 to 3 3/4, subequal with eye; maxillary reaches 4/5 to eye, length in profile 3 3/4 in head; mouth rather small, very oblique, straight or but slightly curved; lower jaw included in upper. Lower gill rakers 14 to 16.

Scales 33 to 36 in lateral series; 11 to 14 transversely, 15 to 20 predorsal.

D. IV to VII I, 9 to 12, first spine 1 1/2 to 2 in head, soft dorsal spine 2, ninth ray 1; A. I, 18 to 21, spine 2 7/8, seventeenth ray 3 1/2 in fish without caudal; caudal 3 3/5, evenly emarginate behind; least depth of caudal peduncle 2; pectoral 1 1/6; ventral 1 1/5.

White stripes or series of spots along rows of scales longitudinally. and red ones between. Vertical fins red or with red stripes or series of spots. Series of darker spots at series of soft dorsal and anal. Length 130 mm.

(Regan.)

New Guinea.

1952

Genus Glossolepis Weber

Glossolepis Weber, Nova Guinea, vol. 5, pt. 2, p. 241, 1908. (Type Glossolepis incisus Weber, monotypic.)

Body oblong, compressed; predorsal profile elevated posteriorly, convex, especially with age. Upper jaw slightly protrudes. Premaxillaries with abrupt band laterally. Lips not thickened. Mouth moderate, not reaching eye. Teeth in several rows in jaws, conic, rounded, extend somewhat on lips, especially near symphyses of premaxillaries. Vomer with transverse band of teeth; band

1889, p. 459, fig. 143. — Fowler, Journ. Acad. Nat. Sci. Phila., ser. 2, vol. 12, 1904, p. 521 (Padang, Sumatra). — Jordan and Seale, Bull. Bur. Fisher., vol. 25, 1905 (1906), p. 257 (Apia and Pago Pago). — Jordan and Richardson, Bull. Bur. Fisher., vol. 27, 1907 (1908), p. 256 (Calayan). — Snyder, Proc. U. S. Nat. Mus., vol. 42, 1912, p. 497 (Okinawa). — Weber, Siboga Exped., vol. 57, Fische, 1913, p. 198 (Sanguisiapo and Sulu, Sulu Archipelago; Sirung; Salimabei; Banda). — Fowler, Bishop Mus. Bull., No. 22, 1925, p. 33 (Samoa). — Fowler and Ball, Bishop Mus. Bull., No. 26, 1927, p. 13 (Christmas Island). — Fowler, Bishop Mus. Bull., No. 38, 1927, p. 13 (Christmas Island).

of teeth on palatines and tongue. Lower gill rakers 30, slender. Branchiostegals 6. Scales rather irregular, deeply crenulated along hind edge, rather small, 55 to 60 between head and tail. No lateral line. First dorsal with strong spine and 3 to 5 much weaker ones. Second dorsal with rather long curved spines, rays 9 or 10. Anal with weak spine, rays 20 to 23, origin before first dorsal origin. Pectoral rays $\frac{I}{=}$, 14. Ventral with slender spine and 5 rays, begins slightly behind pectoral origin.

Fresh waters of northern New Guinea.

saddles, first median or predorsal, second at first dorsal, third at front of soft dorsal, fourth behind soft dorsal and fifth at caudal peduncle medially above. Alternating, along middle of side, series of dark bars, one each opposite pale intervals. Iris slate gray. First dorsal pale, with blackish posterially at margin. Second dorsal pale, with several dark spots on each ray. Caudal with 4 dark transverse cross bars, nearly blackish below. Anal whitish basally, becoming dark gray to blackish terminally. Pectoral uniformly pale or grayish brown. Ventrals pale basally, dark to blackish gray terminally.

1954

~~Glossamia~~ olepis incisus Weber

~~Glossamia~~ olepis incisus Weber, Nova Guinea, vol. 5, pt. 2, p. 241, pl. 11, figs. 7a-c, 1908 (type locality, Lake Ventani, northern New Guinea); vol. 9, pt. 4, p. 562, 1913 (Lake Ventani and Cape Djuar at Humboldt Bay). — Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, p. 281, 1914 (Lake Ventani). — Jordan and Hubbs, Stanford Public., p. 27, 1919 (reference). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 310, fig. 83, 1922 (Lake Ventani and near Humboldt Bay). — Fowler, Mem. Bishop Mus., vol. 10, p. 121, 1928 (compiled).

Scales 21 in lateral axial series from gill opening to caudal base and 2 more on latter; 8 transversely between second dorsal and anal origins, 6 predorsal forward to interorbital; several scales on opercle above, head otherwise naked. Scales with 14 to 15 basal radiating striae; 44 or 45 apical denticles; circuli fine, basal.

D. VI — I, 6, third spine 2 1/8 in total head length, third ray 2/3; A. I, 6, third ray 1 9/10; caudal 1 1/6, convex behind; least depth of caudal peduncle 2/5; pectoral 1 1/5, rays 16; ventral I, 5; fin length 1 1/6.

Pale brown, lighter to uniform or whitish below. Scales on back more or less bordered with

1955

Depth 2 1/3 to 2 4/5; head 3 1/3 to 4. Snout 3 2/3 in head; eye 2 1/2 to 3 1/4, longer than to subequal with snout, which equal or little shorter than interorbital, which well shorter than postorbital; mouth cleft reaching beyond middle of snout; interorbital slightly concave.

Scales 55 to 60 in lateral series; 17 transversely, 40 to 42 predorsal, 3 rows on cheek.

D. $\underline{\underline{IV}}$ or $\underline{\underline{VI}}$ — $\underline{\underline{I}}$, 9 or 10, first spine of first dorsal longer or shorter than second dorsal, longer than or equals postorbital; A. $\underline{\underline{I}}$, 20 to 23, spine long as eye, origin before first dorsal origin; pectoral 1/10 in head, rays $\underline{\underline{I}}$, 14; ventral rays $\underline{\underline{I}}$, 5, ~~fair~~ 2 1/4 in head; caudal peduncle 2; caudal /, emarginate.

1956

Reddish brown, with silvery hue. Fins blackish basally.
Length 145 mm.

(Weber and Beaufort.)

New Guinea.

1957

Genus Rhadinocentrus Regan

Rhadinocentrus Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, p. 279, March 1914. (Type Rhadinocentrus ornatus Regan, monotypic.)

Differs from Melanotaenia in having the first dorsal with all the rays slender and flexible.

Analysis of Species

a.' Pectoral reaches first dorsal; first dorsal nearly high as second dorsal; 2 blackish longitudinal stripes. ornatus.

a.² Pectoral reach $\frac{2}{3}$ to first dorsal; first dorsal much lower than second dorsal; single dark axial longitudinal stripe. rhombosomoides.

1958

Rhadinocentrus ornatus Regan

Rhadinocentrus ornatus Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, p. 280, pl. 31, fig. 1, March 1914 (type locality, Moreton Island near Brisbane, Queensland). — Cockerell, Mem. Queensland Mus., vol. 3, p. 38, 1915 (Moreton Bay; scales). — Ogilby, Mem. Queensland Mus., vol. 6, p. 99, 1918 (Cowan Cowan, Moreton Bay). — Jordan and Hubbs, Stanford Publ., p. 27, 1919 (reference). — Mossman, Queensland Nat., vol. 4, no. 5, p. 95, 1924. — Mc Culloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 140, July 7, 1925 (reference). — Mc Culloch, Dec. Australian Mus., vol. 15, no. 1, p. 29, April 15, 1926 (Boambie Creek, New South Wales);

11893. San Miguel Harbor, Ticao. April 21, 1908. Length 95 mm. [95.]

21878. Binagaan Island, between Jolo and Tawi Tawi. September 21, 1909. Length 107 mm.

7344. Tara Island, Mindoro Strait. December 14, 1908. Length 213 mm.

6841. Tataan, Simulac Island. February 19, 1908. Length 190 mm. [150.]

10398, 10449, 18753. Tilig, Lubang Island. July 14, 1908. Length 125 to 168 mm.

7663. Ulugan Bay, Palawan. December 28, 1908. Length 242 mm.

7693 and 14516. Ulugan Bay. December 29, 1908. Length 146 to 256 mm.

6633. Varadero Bay, Mindoro. July 23, 1908. Length 256 mm.

7148 and 7149. West coast Balabac Island. November 18, 1908. Length 256 to 260 mm.

1959

Mem. Austral. Mus., vol. 5, pt. 1,
p. 111, June 29, 1929 (Queensland,
New South Wales).

5796. Nabatas Point, Samar Island.
July 24, 1909. Length 175 mm.

15675. Near Talag Bay, Luzon Island.
June 16, 1909. Length 170 mm.

9390 and 19132. Paluan Bay, Mindoro.
December 11, 1908. Length 174 to 235 mm.

11124. Pasacao, Ragay Gulf, Luzon.
March 9, 1909. Length 177 mm.

6347, 9021, 9271. Port Jamelo, Luzon.
July 13, 1908. Length 172 to 230 mm.

17624. Port Langcan, Palawan.
April 8, 1909. Length 195 mm.

6552, 6563, 6564. Port Manicaban, southern Luzon. July 21, 1908. Length 256 to 300 mm.

7282. Port Matalvi, Luzon. November 23, 1908. Length 235 mm.

5546. Rasa Island, eastern Palawan.
April 1, 1909. Length 163 mm.

1960

Depth 3 1/2; head 3 3/4. Snout 4 in head from snout tip; eye 2 3/4, greater than snout, equals interorbital; maxillary reaches front eye edge, length 2 2/3 in head from snout tip; interorbital low.

Scales 33 to 35 in lateral series; 8 or 9 transversely, 15 predorsal forward to eye.

D. IV — I, 11, fourth spine 2 1/3 in total head length, soft dorsal height 1 3/5; A. I, 18 or 19, fin height 1 1/2, fin origin little before first dorsal origin; caudal 1, hind edge concave; least depth of caudal peduncle 2 2/3; pectoral 1 1/6; ventral 2 1/4.

Olivaceous. Two blackish longitudinal stripes margin series of scales along middle of side. Scattered dark spots below. Dark

Genus Anisocentrus Regan

Anisocentrus Regan, Trans. Zool.
Soc. London, vol. 20, p. 281, 1914.
(Type Hematocentrus rubrostriatus
Ramsay and Ogilby,

1961

spot at base of each ray of soft dorsal and anal. Length 37 mm.

(Regan.)

Queensland, New South Wales.

1962

Rhadinocentrus rhomboxmoides
Nichols and Raven

Rhadinocentrus rhomboxmoides
Nichols and Raven, Amer. Mus.
Novit., No. 296, p. 1, fig. 1, February
1, 1928 (type locality, Babinda
Creek-drainage, North east
Queensland): — McCulloch,
Rem. Austral. Mus., vol. 5, pt. 1,
p. 111, June 29, 1929 (reference).

7422 and 12543. Linapacan Island, Malcochin Harbor, Linapacan Strait. December 18, 1907. Length 179 to 272 mm.

6041 to 6043. Little Santa Cruz Island. May 28, 1908. Length 222 to 252 mm.

17754. Lubang Island. July 17, 1908. Length 221 mm.

11357. Maagnat, Lagon or Gulf, Luzon. January 17, 1909. Length 240 mm.

7441, 7881, 14551, 14552, 16716. Maculabo Island, east coast Luzon. Length 90 to 171 mm.

15791. Makesi Island, Palawan. April 5, 1909. Length 147 mm.

6187 and 12351. Mansalay, Mindoro. June 4, 1908. Length 165 to 213 mm. [96.]

4734. Maricaban Island, Luzon. January 20, 1908. Length 223 mm.

11353. Mompog Island. March 3, 1909. Length 190 mm.

17217 to 17220. Murcielagos Bay, Mindanao. August 9, 1909. Length 158 to 214 mm.

Depth 3 3/5; head 3 4/5, width 2 2/5. Snout 3 1/2 in head; eye 2 4/5, greater than snout; maxillary reaches 1/4 in eye, length 2 1/5 in head; interorbital 2 2/5, very low. Lower gill rakers 10 or 11.

Scales 38 in lateral series; 11 transversely, 13 predorsal forward to eye.

D. $\overset{\equiv}{\text{V}}$ – 13, third spine 4 1/5 in head, second dorsal height 2 1/3; A. 19, fin height 2, fin origin below first dorsal origin; caudal 1 1/8, emarginate; least depth of caudal peduncle 2 4/5; pectoral 1 3/4; ventral 1 7/8.

Brownish, paler below. Black stripe from eye to caudal base, broadest on head and posteriorly. Length 42 mm., without caudal.

(Nichols and Raven.)

Queensland.

1964

Genus Pseudomugil Kner

Pseudomugil Kner, Reise Novara, Fische, p. 275, 1865. (Type Pseudomugil signifer Kner, monotypic.)

Body small, elongate, much compressed posteriorly. Mouth small or large, very oblique, nearly vertical, bordered by mandible, with prominent symphysis and premaxillaries. Maxillary hidden when mouth closes. Small curved teeth in both jaws, some canine-like in males; palate toothless. Gill membranes free from isthmus and from each other. Scales rather large, cycloid, larger on

head where reaching hind part of crown and operdles. First dorsal of 4 or 5 spines, far behind ventral origin, above, before or somewhat behind anal. Second dorsal with 6 to 8 rays, origin behind anal origin. Anal with long, slender spine and 9 to 12 rays. Caudal emarginate. Pectoral rather high, rays 9 or 10. Ventral abdominal.

Freshwaters of Queensland, New Guinea and the Aru Islands.

1966

Analysis of Species

a.' First dorsal origin well behind ventral origin or behind end of depressed pectoral tip.

b.' First dorsal origin well before anal origin; mouth small.

gertrudae.

b.² First dorsal origin above, slightly before or behind anal origin; mouth large.

novae-guineae.

a.² First dorsal origin rather close behind ventral origin or over depressed pectoral tip.

signifer.

1967

Pseudomugil gertrudae Weber

Pseudomugil gertrudae Weber, Abhandl. Senckenberg. Nat. Gesell., vol. 34, p. 23, pl. 1, fig. 4, text figs. 2-3, 1911 (type locality, Ngaiguli, Serangan Island, Aru Group).

— Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 283, figs. 74 (male) and 75 (female), 1922 (types).

Pseudomugil gertrudei Jordan and Hubbs, Stanford Publ., p. 28, 1919 (reference).

Schneider, Syst. Ichth. Bloch, 1801, p. 330 (Japan).

Serranus guttatus Peters, Arch. Naturg., 1855, p. 235 (Mozambique). — Günther, Cat. Fishes Brit. Mus., vol. 1, 1859, p. 119 (Mauritius, Ceylon, Borneo). — Kner, Reise Novara, Zool., vol. 1, pt. 5, 1865, p. 22 (Tahiti). — Klunzinger, Verh. zool.-bot. Gesellsch. Wien, vol. 20, 1870, p. 686 (Red Sea). — Gunther, Journ. Mus. Godeffroy, vol. 1, pt. 1, 1873, p. 5, pl. 4 (Red Sea, East Africa, North Australia, Polynesia). — Day, Fishes of India, pt. 1, 1875, p. 24, pl. 6, fig. 3. — Macleay, Proc. Linn. Soc. New South Wales, vol. 5, 1880, p. 315 (north coast of Australia). — Klunzinger, Fische Roth. Meer., 1884, p. 3. — Day, Fauna Brit. India, vol. 1, 1889, p. 457.

Perca miniata (part) Forsbål, Descript. Animal., 1775, p. 41.

1968

Depth 4 1/3 to 4 1/2, head 3 7/8 to 4. Snout 5 to 5 1/8 in head from snout tip; eye 2 7/8 to 3, greater than snout, 1 2/5 to 1 3/4 in interorbital; maxillary subvertical, reaches 3/4 to 4/5 to eye, length 4 in head from snout tip; premaxillary and lower jaw with row of very pointed teeth, somewhat curved back; interorbital 1 4/5 to 2 in head, very low.

Scales 30 in lateral series; 7 transversely, 13 predorsal forward to eye of which 10 to crown.

D. IV–6, first dorsal origin 2 or 3 scales before vertical of anal origin, first spine of female 2 in total head length, in male 2 1/2 in fish without caudal, first ray of second dorsal 1, in female 1 3/5 in total head length; A. I, 9 or 10, spine in male 2 3/4 in fish without caudal,

first branched ray in female 2 in total head length; caudal 1 to 1 1/5, little emarginate behind; least depth of caudal peduncle 2 1/4 to 2 1/3; pectoral 1 3/5 to 1 1/2, rays x 9; ventral rays x I, 5; fin in male 2 in fish without caudal, in female 1 7/8 in total head.

Body covered with elongate dark blotches, corresponding with scales and partly anastamosing, through which body has reticulated appearance. Female with fins more or less dusky, few black blotches on caudal base and second dorsal. Male with both dorsals, anal and less so on caudal, covered with blotches in longitudinal rows. Length 35 mm. (Weber and Beaufort.)

Aru Islands.

1970

Pseudomugil novae-guineae Weber

Pseudomugil novae-guineae Weber, Nova Guinea, vol. 5, pt. 2, p. 232, pl. 13, fig. 5, 1908 (type locality, fresh waters Wagani River, Urama basin, Southern New Guinea); Abhandl. Senckenberg. Nat. Gesell., vol. 34, pt. 1, p. 25, 1911 (Waskai River at Sungi Manumbai, Wolsam Island; Sungi Kololobo and Sungi Rubarlaten, Kobroor Island, Aru Group); Nova Guinea, vol. 9, pt. 4, p. 556, fig. 27, 1913 (Lorentz River at Alkmaar and Riverkamp). — Jordan and Hubbs, Stanford Publ., p. 28, 1919 (reference). — Weber and Beaufort, Fish. Indo Austral. Archip., vol. 4, p. 284, fig.

Inus., vol. 1, 1895, p. 189 (Zanzibar, Seychelles, Mauritius, Ceylon, Andamans, Borneo, Ceram, Duke of York Island, Hawaii, Samoa). — Regan, Journ. Bombay Nat. Hist. Soc., vol. 16, no. 2, 1905, p. 329 (Persian Gulf); Journ. Linn. Soc. London, vol. 12, ser. 2, 1907, p. 222 (Maldives). — Weber, Siboga Expedt., vol. 57, Fische, 1913, p. 200 (Makassar). — Barnard, Ann. South Afr. Mus., vol. 21, 1927, p. 473 (Mozambique coast).

Bodianus gutteatus (preoccupied by Perca guttata Linnaeus) Bloch, Naturg. Ausld. Fische, vol. 4, 1790, p. 36 (East or West Indies, Africa, St. Helena Island, Jamaica; part).

Bodianus guttatus Bloch, Naturg. Ausld. Fische, vol. 4, 1790, pl. 224. — Walbaum, Artedi Pisc., vol. 3, 1792, p. 674 (on Bloch). — Forster, Fauna Indica, 1795, p. 16. —

1971

76, 1922 (types; New Guinea).—
Fowler, Mem. Bishop Mus., vol. 10,
p. 120, 1928 (compiled).

Serranus argus Cuvier, Hist. Nat. Poiss., vol. 2, 1827, p. 360 (on drawings by Vlaming). — Günther, Cat. Fishes Brit. Mus., vol. 1, 1859, p. 115 (East Indies). — Peters, Monatsb. Akad. Wiss. Berlin, 1865, p. 113 (type). — Meyer, Ann. Soc. Españ. Hist. Nat. Madrid, vol. 14, 1885, p. 8 (north Celebes).

Serranus guttatus var. argus Günther, Journ. Mus. Godeffroy, vol. 1, pt. 1, 1873, p. 5, pl. 4, figs. A-B.

Epinephelus argus Bleeker, Atlas Ichth. Ind. Néerl., vol. 7, 1873-76, p. 43 ~~pl. (64) 342, fig. 3~~ (Sumatra, Batu, Nias, Singapore, Java, Borneo, Celebes, Sangir, Timor, Ternate, Buru, Ceram, Amboina, Goram, New Guinea); vol. 8, 1876-77, pl. (64) 342, fig. 3. — Fatzow and Lenz, Abhandl. Senckenberg. Naturf. Gesell., vol. 21, 1889, p. 498 (Zanzibar). — Sauvage, Hist. Nat. Madagascar, Poiss., 1891, p. 54. — Boulenger, Cat. Fishes Brit.

Depth 4 2/3 to 4 3/4; head 4. Snout 4 1/2 to 3 in head from snout tip; eye 3, greater than snout, equals interorbital, 1 1/5 in postorbital; maxillary obliquely vertical, not reaching eye or only below nostrils, length 2 1/3 to 2 3/4 in head from snout tip; premaxillary and lower jaw with narrow band of pointed teeth, curved backward; in male some teeth larger and more or less caniniform; interorbital 2 to 2 1/8 in head from snout tip, low.

Scales 31 to 32 in lateral series; 7 transversely, 15 or 16 predorsal forward to crown.

D. IV — 8, first dorsal above, slightly before or behind anal origin, male with first dorsal spine 3 in fish without caudal, first branched ray 1 1/8 in total

head, in female first spine of first dorsal 1 3/4, soft dorsal height 2; A. I, 12, first branched ray in male = 1, in female 1 2/3; caudal 1, little emarginate behind; least depth of caudal peduncle 2 2/3 to 2 3/4; pectoral 1 1/10, rays 10; ventral rays I, 5, fin 2 to 2 1/10.

Light yellowish. Dark lateral axial band, broadens on caudal peduncle to caudal base. Oblique darks, more or less complete lines crossing each other and form borders of scale exposures, giving body reticulated appearance. First dorsal black, other fins dusky, with black submarginal band on anal, more developed in male. Length 43 mm.

(Weber and Beaufort.)

New Guinea, in fresh water.

1974

Pseudomugil signifer Kner

Pseudomugil signifer Kner, Reise Novara, Fische, p. 275, pl. 13, figs. 5a-b, 1865 (type locality, "Sidney"). — Ogilby, Proc. Linn. Soc. New South Wales, vol. 21, 1896, p. 133 (reference), vol. 22, 1897, p. 82 (~~New South Wales~~). — Stead, Fishes of ~~Australia~~ New South Wales, p. 71, 1906. —

— Jordan and Hubbs, Stanford Publ., p. 28, 1919 (reference). — McCulloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 140, July 7, 1925 (reference). — McCulloch, Mem. Austral. Mus., vol. 5, pt. 1, p. 111, June 29, 1929 (~~New South Wales; Queensland~~ reference).

. Cephalopholis argus Schneider.

Cephalopholis argus Schneider, Syst. Ichth. Bloch, 1801, p. 311, pl. 61. East Indies. — Jordan and Seale, Bull. Bur. Fisher., vol. 25, 1905 (1906), p. 258 (Pago Pago, Samoa). — Fowler, Proc. Acad. Nat. Sci. Phila., 1907, p. 252 (Thornton Island; Samoa). — Jordan and Richardson, Bull. Bur. Fisher., vol. 27, 1907 (1908), p. 256 (Cagayancillo). — Fowler, Bishop Mus. Bull., No. 22, 1925, p. 33 (Samoa). — Fowler and Ball, Bishop Mus. Bull., No. 26, 1925, p. 14 (Wake Island). — Fowler, Bishop Mus. Bull., No. 38, 1927, p. 13 (Palmyra, Jarvis and Tongareva Islands).

1975

Atherina signata Günther, Ann. Mag. Nat. Hist., ser. 3, vol. 20,

Pseudomugil signata Ogilby, Proc. Linn. Soc. New South Wales, vol. 21, 1896, p. 133 (reference).

→ Pseudomugil signatus Jordan and Hubbs, Stanford Publ., p. 28, 1919 (reference).

Catherinoxena jamesonii Macleay, Proc. Linn. Soc. New South Wales, vol. 9, p. 171, 1884 (1885) (type locality, Bremer River, tributary of Brisbane River, Australia). — Jordan and Hubbs, Stanford Publ., p. 28, 1919 (reference).

1975

Atherina signata Günther, Ann. Mag. Nat. Hist., ser. 3, vol. 20, p. 64, 1867 (type locality, Cape York). — Macleay, Proc. Linn. Soc. New South Wales, vol. 5, pt. 2, p. 40, 1881 (copied). Ogilby, Proc. Linn. Soc. New South Wales, vol. 9, p. 171, 1884 (1885) (type locality, Bremer River, tributary of Brisbane River, Australia). — Jordan and Hubbs, Stanford Publ., p. 28, 1919 (reference).

Pseudomugil signatus Jordan and Hubbs, Stanford Publ., p. 28, 1919 (reference).

Catherinosoma jamesonii Macleay, Proc. Linn. Soc. New South Wales, vol. 9, p. 171, 1884 (1885) (type locality, Bremer River, tributary of Brisbane River, Australia). — Jordan and Hubbs, Stanford Publ., p. 28, 1919 (reference).

16429. Manawan Island, vicinity Darvel Bay, Borneo. September 27, 1909. Length 137 mm.

13424. Buka Buka Island, Gulf of Tomini, Celebes. November 20, 1909. Length 123 mm. [2059.]

A858. Limbe Strait, Celebes. November 9, 1909. Length 260 mm.

22860. Togian Island, Celebes. November 19, 1909. Length 146 mm.

A.1133. Kayoa Island, November 29, 1909. Length 254 mm.

1976

Depth $3\frac{2}{5}$ to $3\frac{1}{2}$; head $3\frac{1}{2}$ to $3\frac{3}{4}$. Snout 3 to $4\frac{1}{3}$ in head from snout tip; eye $2\frac{1}{2}$ to $2\frac{4}{5}$, greater than snout; maxillary not quite reaching eye, length $3\frac{1}{4}$ to $3\frac{1}{2}$ in head from snout tip; interorbital low.

Scales 29 in lateral series; 7 transversely, 8 predorsal.

D. IV or V — 8, second spine in female $1\frac{1}{10}$ in total head length, in male $3\frac{1}{5}$ in fish without caudal; A. 12, second ray $1\frac{1}{5}$ to $1\frac{2}{5}$ in total head length; caudal $1\frac{1}{8}$, emarginate behind; least depth of caudal peduncle $2\frac{2}{5}$ to $2\frac{2}{3}$; pectoral $1\frac{1}{10}$ to $1\frac{1}{5}$, rays 10; ventral rays 6, fin $1\frac{4}{5}$ to 2 in total head length.

Back with dark pigment, side and belly silvery. Blue black axial lateral line. Second dorsal of male with front filamentous rays blackish, others yellowish. Anal like second dorsal. Pectoral above and both caudal lobes blackish. Female with uniform fins. Length of male 39 mm, female 28 mm. (Kner.)

New South Wales, Queensland.

1977

Genus Telmatherina Boulenger

Telmatherina Boulenger, Proc. Zool. Soc. London, 1897, p. 428. (Type Telmatherina celebensis Boulenger, monotypic.)

Body compressed, more or less elongate. Mouth small, oblique, bordered by premaxillaries and mandible; premaxillaries with slight curve, symphyseal part more or less expanded horizontally; maxillaries rod like, concealed below preorbital when mouth closes. Teeth small, pointed, on premaxillaries, mandible and tongue, none on palate. Gill membranes free from isthmus and each other.

1978

Gill rakers 15 to 20 below, slender, denticulate, subequal with gill filaments. Scales cycloid, faint crenulations on hind edges. No lateral line or sometimes variably as pit on each scale of series. First dorsal with 4 to 7 simple flexible rays, origin slightly behind ventral origin. Second dorsal with simple ray and 8 to 11 branched, fin origin slightly behind anal origin. Anal spine feeble, rays 11 to 13, Caudal forked. Pectoral with simple ray and 12 to 15 branched rays. Ventral with weak spine and 5 rays, inserted well behind pectoral base, also well before anal.

16783. Busin Harbor, Burias Island. March 7, 1909. Length 142 mm.

15315. Busin Harbor, Burias Island. March 8, 1909. Length 101 mm.

11066, 15500, 17179, 18725. Butauanan Island, east coast Luzon. June 13, 1909. Length 93 to 127 mm.

17417. Candaraman Island, north Balabac Strait. January 4, 1909. Length 100 mm.

22258. Canimo Island, near Daet, east coast Luzon. June 15, 1909. Length 112 mm.

15059, 17075, 17480. Cannahala Bay, Ragay Gulf, Luzon. March 11, 1909. Length 96 to 136 mm. [1315.] Pale olive green, head numerously spotted with blue specks which extend to breast even with pectoral bases and about same distance on nuchal region, those above much smaller. Fins without

1979

Lakes in Celebes.

Analysis of Species

a.' Snout equals or less than eye;
body little elongate.

b.' Anal I, 13 to 15; scales transversely
8; pectorals long as head without
snout. celebensis.

b.² Anal I, 11; scales transversely 7;
pectorals shorter than head
without snout. bonti.

a.² Snout longer than eye; body
more elongate; A. I, 12 or 13; scales
transversely 8. abendanoni.

~~Sulu Archipelago, East Indies,~~
~~Philippines, Malaysia.~~

5188 and 5189. Alibijaban Island, Ragay Gulf, Luzon. March 6, 1909. Length 115 & 133 mm.

16013, 14884, 17707. Alimango Bay, Burias Island. March 5, 1909. Length 131 to 168 mm.

10586. Bolalo Bay, Palawan. December 21, 1909. Length 112 mm.

15451. Bolinao Bay, west Luzon. May 10, 1909. Length 124 mm.

8865. Buang Bay, Talajit Island, between Samar and Masbate. March 15, 1909. Length 172 mm.

~~17858 and 17859.~~

8056, 8057, 21269. Busin Harbor, Burias Island. April 22, 1909. Length 140 to 155 mm.

16673 and 22775. Busin Harbor. April 23, 1908. Length 126 to 137 mm.

1940

Telmatherina celebensis Boulenger

Telmatherina celebensis Boulenger, Proc. Zool. Soc. London, 1897, p. 428, pl. 28, fig. 3 (type locality, Lake Matanna, northeast Celebes).

— Weber, Bijdr. Dierk. Amsterdam, pt. 19, p. 206, fig. 3, 1913(

— Jordan and Hubbs, Stanford Public., p. 29, 1919 (reference). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 279, fig. 72, 1922 (Lake Matano and Towuti, Celebes).

depth 2 2/3 to 2 5/6, head 2 1/4 to 2 3/5, width 2 3/5 to 2 3/5. Snout 4 1/5 to 4 1/4 in head from snout tip; eye 5 to 6 2/5, 1 2/5 in snout to greater than snout in young, 1 1/5 in interorbital; maxillary reaches opposite hind eye edge or little beyond, expansion 2/3 to 1 in eye, length 2 to 2 1/5 in head from snout tip; teeth fine, in bands in jaws, outer series scarcely larger; pair of front canines in each jaw; minute teeth on vomer and palatines; interorbital 6 1/4 to 7 3/5, slightly convex; hind preopercle edge finely serrated; median opercle spine closer to lower, which most advanced. Gill rakers 7 + 14, equal gill filaments or nearly 2/5 of eye; 1 to 5 above and as many below rudimentary.

Scales 80 to 88 in lateral line to

1981

Depth 2 4/5 to 3 9/10; head 3 1/5 to 3 2/5.
Eye about 3, subequal or longer than snout, equals or slightly less than interorbital, which less than postorbital; mouth small, oblique, reaching half way in snout; premaxillaries gently curved, symphyseal part more or less horizontal; jaws equal; small pointed teeth in both jaws, none on palate and small teeth on hind part of tongue.

Scales 32 to 34 in lateral series; 8 transversely, 12 to 16 predorsal forward to head, 1 row on cheek. Opercle with rather large scales.

D. 6 or 7 - $\underline{I}$, 8 to 11, origin more or less behind ventral origin, second dorsal origin behind anal origin, first ray of first dorsal prolonged into long filament in males reaching end of second dorsal or farther; A. $\underline{I}$, 13 to 15,
$\overline{2}$

spine short, or long as ventral spine, scarcely shorter than eye; caudal forked; pectoral long as head without snout, ~~pectoral~~ rays I, 14 or 15; ventral rays I, 5.

Yellowish, browner above, scales pigmented marginally to form reticulate pattern on back. Males with 3 or 4 more or less distinct brown crossbands, first behind pectorals, second interdorsal and third from hind part of second dorsal to anal. First dorsal blackish, filamentous part white, second dorsal blackish except broad white terminal edge. Caudal and anal with black medial cross band. Females with much fainter or obsolete markings. Length 92 mm.

(Weber and Beaufort.)

Lakes Matano and Towuti, Celebes.

1983

Telmatherina bonti Weber and Beaufort

Telmatherina bonti Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 280, 1922 (type locality, Lake Towuti, Celebes).

Telmatherina celebensis (not Boulenger) Weber, Bijdr. Dierk. Amsterdam, pt. 19, p. 206, 1913 (part).

caudal base, and 15 to 17 more on latter; tubes 43 to 48 in lateral line to caudal base and 3 to 5 more on latter; 15 to 17 scales above lateral line, 29 or 30 below, about 45 predorsal, 22 rows on cheek; scales on head mostly smooth; fins with small basal scales; maxillary naked. Scales with 6 to 9 basal radiating striae, 28 to 35 apical denticles with 3 or 4 transverse series; circuli fine.

D. $\underline{\underline{IX}}$, 16, $\underline{\underline{I}}$, or 15, $\underline{\underline{I}}$, third spine $2\frac{7}{8}$ to $3\frac{1}{5}$ in total head length, eighth ray $2\frac{1}{8}$ to $2\frac{1}{5}$; A. $\underline{\underline{III}}$, 8, $\underline{\underline{I}}$, second spine $2\frac{1}{2}$, fifth ray 2 to $2\frac{1}{6}$; caudal $1\frac{3}{4}$ to $1\frac{4}{5}$, rounded convexly behind; least depth of caudal peduncle 3 to $3\frac{1}{4}$; pectoral $1\frac{2}{5}$ to $1\frac{1}{2}$; ventral $1\frac{7}{8}$ to 2.

Depth 3 1/3 to 3 1/2; head 3 1/10 to 3 1/5. Eye more than 3, longer than snout and less than interorbital, which equals postorbital; mouth small, reaching over half in snout; premaxillaries gently curved, symphysial part mostly horizontal; jaws equals; narrow band of minute teeth in jaws; no teeth on palate.

Scales 31 or 32 in lateral series; 7 transverse, 12 predorsal forward to head, 1 row on cheek. One very large and several smaller scales on opercle.

D. V to VII — I, 8, origin of first dorsal more or less behind ventral origin, second dorsal behind anal origin, fin rays not prolonged; A. I, II, spine short or equals ventral spine, shorter than eye; caudal forked; pectoral shorter than head without snout, rays I, 13; ventral

rays I, 5.

Yellowish, somewhat darker above, where scales pigmented along margins. Faint lateral black band, running from below dorsal to caudal base. Length 60 mm.
(Weber and Beaufort.)

Lake Towuti, Celebes.

1986

Telmatherina abendanoni Weber

Telmatherina abendanoni Weber, Bijdr. Dierk. Amsterdam, pt. 19, p. 208, fig. 6, 1913 (type locality, Soroako on Lake Matanna, Celebes). — Jordan and Hubbs, Stanford Public., p. 29, 1919 (reference). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 4, p. 281, fig. 73, 1922 (Lake Mantano).

. Chocolate brown, with 8 poorly defined darker vertical cross bands. Head and body anteriorly usually finely spotted with small blue dots each with dark ring. marginally, much larger and fewer in young. Lower body surface little paler than back. Eye pale brown. Fins blackish brown vertical with submarginal blackish bands. Upper dorsal edges and corners or upper and lower caudal edges narrowly white.

India, Ceylon, East Indies, Philippines, Queensland, Melanesia.

1987

Depth $2\frac{4}{5}$ to $3\frac{9}{10}$; head $3\frac{1}{5}$ to $3\frac{2}{5}$. Snout 4 in head; eye 3 to $3\frac{1}{5}$, somewhat longer than or equal to snout, subequal with interorbital; ~~maxillary~~ mouth reaches $\frac{1}{2}$ in snout, small, oblique; jaws equal; small pointed teeth in both jaws, none on palate, on hind part of tongue.

Scales 32 to 34 in lateral series, 8 transversely, 13 or 14 predorsal forward to occiput, 1 row on cheek. Opercle with rather large scales.

D. 4 to 6 — $\underline{\underline{I}}$, 9 or 10, ~~origin of first dorsal more or less behind ventral,~~ ~~to~~ first ray $1\frac{1}{2}$ in head, third ray of second dorsal $1\frac{3}{4}$; A. I, 12 or 13, second branched ray $1\frac{3}{4}$; caudal $1\frac{1}{10}$, forked; least depth of caudal $2\frac{7}{8}$; pectoral $1\frac{3}{5}$, rays $\underline{\underline{I}}$, 12; ventral $\underline{\underline{I}}$, 5, fin 2 in head.

Yellowish, scales margined brownish, broader so on back where pigment extends below center of scales.

1988

Fruit somewhat dusky. Length 88 mm.
(Weber and Beaufort.)

Celebes.
Lake Matano,

1989

Genus Atherinosoma Castelnau

Atherinosoma Castelnau, Proc. Zool. Acclimat. Soc. Victoria, vol. 1, p. 138, July 15, 1872. (Type Atherinosoma vorax Castelnau, monotypic.)

Body moderately long. Head moderate. Mouth cleft small, not reaching eye. Teeth strong, present in jaws, on palatines and tongue, in several rows. On vomer and palatines numerous tuberculoies teeth on all upper surface of interior of mouth, also on tongue. Scales very large. First dorsal inserted well forward, spines filamentous. Anal short. Lateral silver band longitudinal.

1990

Atherinosoma vorax Castelnau

Atherinosoma vorax Castelnau, Proc. Zool. Acclimat. Soc. Victoria, vol. 1, p. 138, July 15, 1872 (type locality, Cape V. Hancks, Victoria). — Macleay, Proc. Linn. Soc. New South Wales, vol. 5, pt. 2, p. 45, 1881 (copied). — Jordan and Hubbs, Stanford Publ., p. 27, 1919 (reference). — McCulloch, Rec. Austral. Mus., vol. 5, pt. 1, p. 111, June 29, 1929 (reference).

. 7362. Jara Island. december 15,
1908. Length 470 mm.

A569. Tutu Bay, Jolo Island.
September 19, 1909. Length 415 mm.

5999. Zamboanga market. May 26, 1908.
Length 43 mm.

1991

Depth 7 in entire length; head 4 1/2.
Snout shorter than eye; eye 3 1/3 in
head; lower jaw protrudes; opercle
and preopercle entire.

Scales 36 in lateral series;
head above covered with large
scales up to eye center, front part
with longitudinal lines.

D. VI - I, 9, first dorsal rounded,
inserted nearer snout tip than
caudal base, second dorsal long
as space from snout tip to hind
eye edge and space from its end
to caudal base about 9 1/2 in same
distance, fin height equals body
depth; A. I, 8, inserted below second
dorsal; caudal strongly bifurcate,
rays I 7; pectoral rays I 12, ventral
little before first dorsal, rather
large, with spine and 5 rays.

Light green, lower parts
white and silvery. Broad
longiteudinal band, more brilliant

on sides. Upper fins and caudal yellow. Ventral and anal white. Length 75 mm.

(Castelnau.)

Victoria.